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ORIGINAL ARTICLES.

CYSTITIS IN THE FEMALE.

Contributed to the Section on Obstetrics and Gynecology, at the Thirty-Eighth Annual Meeting of the American Medical Association, June, 1887.

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This paper is limited to the discussion of certain changes that are of common occurrence in the bladder of the female, and that are often so intractable to treatment as to warrant the query made some time since by one of my eminent surgical friends, "Did you ever know a permanent cure of chronic cystitis?"

The mucous membrane of the bladder is composed of epithelial cells, arranged in several layers. The deeper cells are round, conical, or cylindrical, but they change towards the surface, until the superficial layer is composed of flat, laminated cells, which may be always seen in normal urine. Mucous glands, simple and aggregated, lined with cylindrical epithelium, are found at the neck of the bladder and towards the fundus. This epithelial lining of the bladder is continuous into the urethra, and contains there numerous large glands, glands of Lithré. They are often 1 millimetre or more in diameter and from 2 to 5 millimetres in length. They secrete mucus. This delicate arrangement of epithelium plays a more important part than is usually ascribed to it, in protecting the highly vascular tissues beneath from injury arising from contact with the urine; an organic fluid so highly complex that, under certain conditions, it easily undergoes decomposition and becomes exceedingly irritating. The mucus, secreted by the glands at the base of the bladder and of the urethra, serves a valuable protective purpose, but we shall see later that they may themselves become the seat of most important pathological changes which are generally overlooked. In certain pathological conditions of the bladder, these glands may be easily distinguished by the unaided eye, as small pearly vesicles, filled with a transparent, turbid, or mucopurulent secretion. The vascularization of the mucous coat is then greatly increased, and the increased nutrition causes a proliferation of epithelial cells of such a rapid growth that they widely depart from an even layering of a protective character, and not seldom appear as papillæ more or less prominent. The muscular fibres become greatly increased by overactivity to expel the irritating contents of the organ. The development of this irregular network of muscular fibres changes the symmetry of the bladder, the mucous membrane is thrown into crypts and folds from which the urine cannot be easily expelled, and thus, from step to step, the changes in this important organ may be traced, until a pathological factor-age is developed inimical to life. *Pari passu* the kidney, surgical kidney so-called, often, perhaps generally, becomes affected, and a chronic nephritis closes at long range what at first seemed a simple affection.

There can be no doubt that the more marked structural changes which are so often met with in the bladder not only in large measure incapacitate it for the fulfilment of its normal function, but also are beyond the remedy of our art. The surgical treatment of rest, applied to this viscus by the artificial vesico-vaginal fistula as devised by the late Dr. Sims and still to a certain degree popular, may have a narrow range of usefulness; but to condemn a patient deliberately to complete incontinence of urine for a space of six months or longer is, for the time at least, a doubtful exchange of suffering, and the secondary closure of the fistula, except in the hands of a few experts, is an operation of doubtful outcome. I cannot help thinking the primal causes of cystitis are in great measure overlooked. Normal urine is acid and free from ferment. It is a familiar experiment, and often a satisfactory test of condition, to pass the urine directly into an aseptic flask and stop with sterilized cotton. If normal, it will undergo no change so long as it remains thus protected from atmospheric germs. Thus it is with the urine in the healthy bladder; and even after the introduction of septic material into the bladder, often it will fail to germinate. If it grows, the cystitis resulting, as a rule, passes off in a few days as an acute attack and the patient is again well. The fortunate outcome results because the ferment is placed under conditions unfavorable to growth. The bladder walls are intact with its unbroken pavement of epithelium, and the healthy urine furnishes little food for bacterial development.

The germ bearing catheter, however, is rarely introduced under conditions so favorable. Let the bladder be over-distended and the protective layers of epithelium become disturbed or broken, and the vascularization and nutrition of the organ changed. Again, in the familiar instance of the over-distended bladder in parturition, where injury has been caused by uterine contractions and the vascularity normally greatly increased. Now introduce the catheter, ven-

erable in the service of a score of cases of cystitis and never properly cleansed, or a clean catheter with all the becoming delicacy of our early teaching, "never to expose a woman," smeared after a few misdirected efforts with septic vaginal secretions, and note results.

The soil of our new field is now well prepared for the sowing, and the harvest is sure. Although it does not possess the danger of a septic uterus, the result is none the less certain. The bladder, under these conditions, proves an excellent culture chamber, and the bacteriological ferment grows with marvellous reproductive power. The lymphoid cells of low vitalization are easily destroyed, the epithelium and albuminates are readily assimilated, the urine is no longer acid, chemical changes result in new and irritating compounds, and these mischief-makers, although so long overlooked because of their diminutive size, are potent to cause irreparable damage. They are destroyed with difficulty, since the contractions of the bladder in the effort to expel its irritating contents only press the ferment into each infraction of surface and the mucous glands become new centres of colonization, and it is easy to follow the secondary and marked changes so long painfully familiar to the profession.

In 1881 I had the honor of contributing to this Association a paper upon the treatment of cystitis and, as the result of a long period of experimentation, I then presented a series of double rubber tubes for the injection and irrigation of the bladder. These catheters are of various sizes, ranging from No. 18 to 25 F., and the efferient tube is three times longer than the direct, and thus over-distension of the organ is prevented. The double tube was of course no novelty, but they had never been made of *soft* rubber, and many months of experimentation elapsed before the perfection of the tubes. As now made by Tiemann & Co., of New York, they leave little to be desired and are as perfect in finish as the best of soft catheters. The exquisite finish of the surface and eyelet is secured by curing at high temperature in molds of very hard annealed glass.

The relief sought is not a simple disinfection. For reasons already referred to the cleansing of the bladder is attained with much difficulty and, on this account, the hot douche proves of the greatest service. I have been for years in the habit, in chronic cases of cystitis, of directing the water to be used as hot as comfortable and to be continued for half an hour morning and evening. The result is comparable with the hot water vaginal douche, not only to wash away the mucus and decomposing urine with ferments, but especially to lessen the vascularization of the bladder and aid in the reparation of the epithelial protective layers of cells. A long series of experiments were undertaken to ascertain the antiseptics best suited to be used in the bladder, and the intolerance of germicides in the bladder is most remarkable. Generally a 1 to 5,000 mercuric bichloride solution is followed by severe pain and tenesmus, often lasting for some hours. A 1 to 10,000 solution has been used more often than the weaker solutions, and it is very effective in this strength, but not seldom have I been obliged to suspend its use entirely, or substitute a much weaker solution. Only recently a case has been reported to me where a 1 to 80,000 could not be continued because of the pain. The better way is to cleanse first the bladder with warm water; then use the antiseptic as strong as judged best. After its retention for a few minutes allow it to escape, and follow immediately with the prolonged hot water douche. By so doing, the good result of destruction of ferment is accomplished by the use of a comparatively strong solution, and the deleterious secondary result prevented by lessening the blood supply, nerve irritation, etc. It is always well to remember that the water should be boiled water, cooled to the proper temperature. In the city this is ever at hand in the water from the hot faucet, as this has always been carried to a high temperature before reaching the boiler.

The bladder tolerates iodoform well, and the treatment is finished by injecting a few grains in suspension which is allowed to remain. This soon settles to the base of the bladder and is not easily expelled. It dissolves less readily in the bladder than in most parts of the body. I examined recently a specimen of urine voided at will which contained a large amount of iodoform. In reply to my inquiries I found the patient, a man, had for some time taken a teaspoonful of iodoform in suspension as an injection daily without inconvenience.

The treatment outlined above is repeated night and morning, until the urine is free from bacteria, then daily for a period, and often twice or once a week until sure of cure. The bladder tolerates hot water singularly well. In a very troublesome case of cystitis in an old man with a greatly enlarged prostate, the injections were continued for a long time at hourly sittings. The 4-quart rubber bag makes the most convenient receptacle for the water. When properly adjusted the fluid flows in an unbroken stream into and out from the bladder with very little inconvenience; often with distinct comfort to the patient.

In one case of vesical hæmorrhage, resisting all other measures, the patient in extreme danger from the loss of blood, I continued the flow of hot water through the bladder uninterruptedly for forty-eight hours, followed by cure without any return of hæmorrhage.

In earlier years, I often felt it necessary to dilate the urethra, as a measure also of much value in order to lessen the irritation and tenesmus. It has been supposed that, in order to be of value, there must be a fissure in the neck of the bladder, and this method of treatment appears to have been based upon the remarkable results in fissure of the rectum after forcible dilatation. It at least, in a measure, paralyzes for a time the muscular fibres which surround the entire urethra. This gives an easy outflow to the urine with little pain or spasm for some days, and thus relieves the continued tension of the bladder. I have certainly seen some remarkable cures follow this treatment. There is no rule for guidance in the selection of cases, but it would appear unwise and ill-chosen unless there was some organic lesion of

the urethra. With the modern means of examination, there can be no reason and should be no excuse for not knowing the condition of the entire urethra. Dilatation is not without some danger of ill result; hæmorrhage may be excessive and troublesome. Paralysis and incontinence may follow even when care is exercised and the surgeon fully competent.

One of our prominent modern authors[1] states "that the relation of cystitis to the formation of vesical calculus cannot be passed by without further notice. That a certain degree of irritation, if not of inflammation, is a constant factor in stone production there can be but little doubt. Let us observe what follows the excitation of inflammation of a moderate amount in the bladder, by the introduction into it of an extraneous substance. A piece of bougie may thus become accidentally lodged; cystitis is produced, the urine is renderd alkaline and phosphates are thrown down in abundance and aggregated around the foreign body." Here, as with all authors, almost without exception, it is referred to the "irritation or inflammation" produced by the foreign body, as the cause of all the mischief, without a hint that the something beside the bougie, namely: the bacterial ferment, was the real cause of rendering the urine alkaline and that, on this account, the subsequent chemical changes took place, resulting in phosphatic concretions.

Dr. Bigelow's lithopaxy has clearly taught the lesson, too little emphasized, that the "irritation or inflammation" resulting from an hour's operation within the bladder, itself seriously diseased, is less to be feared, if the organ is left *clean*, than many minor surgical operations done without aseptic conditions.

In a variety of ways, the gonococcus of gonorrhœa may and actually does find its way into and reproduces in the bladder, giving rise to severe cystitis. Here the common cause is the introduction of the bougie, or sound, either carrying with it the ferment already growing in the urethra, or introducing it into the bladder by a contaminated, unclean catheter. Ferment thus introduced is by far the most common of all causes of cystitis. The vagina is never free from actively growing organisms, and the one invariable rule of catheterization is an aseptic instrument, introduced into a surgically clean urethra. As ordinarily used, an instrument for each patient means but little. Let the catheter be constantly kept in a solution of mercuric bichloride, 1 to 1,000, and carefully cleansed with the same before its introduction.

I have felt it a duty to enforce the above lesson, not because it presents any especial discovery or, at this date, real novelty in practice, but rather as the practical deduction of the normal evolution of the *rôle* of the ferments developing in this important organ; deductions based upon years of observation and a large experience in private and hospital practice; all the more important since, I am constrained to believe, care as above described is prevention, and measures so simple and effective in cure are yet the exception to the rule of treatment.

[1] R. Harrison, Liverpool. Encyclopædia of Surgery, vol. vi, p. 344.

AFTER-TREATMENT OF CATARACT EXTRACTION.

Read in the Section on Ophthalmology, Otology and Laryngology, at the Thirty-Eighth Annual Meeting of the American Medical Association, June, 1887.

BY W. T. MONTGOMERY, M.D.,
OF CHICAGO, ILL.

Some of the gentlemen now present, will remember a brief discussion of the after-treatment of cataract extraction and iridectomy, introduced before this Section one year ago, by Dr. Chisolm, of Baltimore. The doctor promised to give trial to the after-treatment of extraction and iridectomy without the dark room, with more freedom and less bandaging, and report the result. We all know how soon and how well he fulfilled his promise. I stated in the discussion one year ago, that for six months previous, it had been my custom to permit cataract patients to leave their beds the third day after extraction, and the fourth or fifth day to substitute the green shade or smoked glasses for the bandage, and with better results than when I had kept the patient in bed in a dark room for from one to three weeks. I continued to treat my cataract patients as I then indicated, until Dr. Chisolm's first report appeared. After reading that report, the question as to whether or not it is necessary to put the patient to bed at all after cataract extraction, suggested itself to my mind. As I could see no urgent reason why they should be, I determined to try a more liberal treatment even than that outlined by Dr. Chisolm.

Since July 22, of last year, I have made twenty extractions, twelve infirmary and eight private cases, and with two exceptions all have been treated as follows: Von Graefe's linear operation under cocaine was made in every case. Only the eye operated on was bandaged, and the patient was put in a quiet, moderately lighted room and permitted to sit in a chair, walk about the room or lie on his bed as he felt inclined. The only precautions to the patient was to avoid violent exertion or sudden jar. The dressing was not disturbed until the third day unless the patient complained of pain or the bandage became displaced. The third day the dressings were changed, the eye bathed, and a 1 per cent. solution of atropia sulph. instilled between the lids. In all but three of the cases the bandage was left off the fourth or fifth day, and the shade or colored glasses substituted, and the patient permitted to go to his meals and walk about the house. The exceptions were two cases in which the vitreous presented, and it was necessary to introduce the spoon to remove the lens. These patients were put to bed and the eyes kept bandaged until the reaction, which was severe in each case, had subsided. A third case in which the bandage was necessary for a longer time, was one in which there was extensive choroidal degeneration, and although the corneal wound healed readily, repeated hæmorrhages into the eye occurred. The patient in whom this occurred had cataract in both eyes, and extensive posterior staphyloma, with barely perception of light in either. I made extraction on both eyes at different times against my better judgment, but at the earnest

solicitation of the patient, and hoping to give him a little more light. His vision was not improved, but it was not the fault of the method of treatment.

In none of the twenty cases was there any corneal infiltration or delay in healing of the corneal wound. In only one case, except those already referred to, was there iritis. In this case one eye had been operated on four or five years before by the downward incision, and consequently I made the cut downward on the second eye. The wound would open occasionally and the aqueous gush out. The third day the patient began to have iritis, which became quite severe and delayed recovery to some extent.

Two of the private patients visited my office the eighth day after operation, wearing only smoked glasses. I think any of the uncomplicated cases could have done so had it been necessary. At the end of the first week there was still slight vascularity of the cornea at the seat of the wound, but the eye was free from irritation and bore the light well.

As to the final result I am unable to give it definitely in every case, but feel safe in saying that the vision obtained was up to the average in a series of twenty cases.

It is not my purpose in presenting this brief report, to try to prove that I have obtained better results by this method of treatment than can be obtained by the old. I wish simply to offer this for what it is worth towards establishing what I believe to be is a fact, and that is that this line of treatment is entirely safe. I mean in uncomplicated cases without accident during operation. I did not use it in the two cases with loss of vitreous, nor would I use it again in a patient on whom I had made the downward incision.

I think it is generally conceded, that we cannot prevent more or less rolling or motion of the globe of the eye, no matter in what position we place the patient, what kind of a bandage we use, or whether we close one or both eyes. I don't believe the motion of the globe does any harm if the lids are kept closed. A very gentle pressure or force is sufficient to keep the lids of one eye closed, even when the other eye is allowed to remain open. The dressing that will most effectually accomplish this, and with the least discomfort to the patient, is the most desirable. In the first half-dozen cases I used the isinglass plaster as recommended by Drs. Michel and Chisolm. The weather being very warm and the patients sweating more or less, I had difficulty in getting the plaster to adhere, and when it did adhere it soon became dry and uncomfortable to the patient. I abandoned this for the gauze roller bandage, using enough absorbent cotton to even up the orbital depression and make gentle pressure upon the lid. This bandage is cool and quite comfortable, and moistened before it is applied retains its position the best of any dressing I have tried.

We all know how trying to the comfort and health of the patient the old-after treatment is. I have more than once been more concerned about the general condition of my patient after extraction, than about the amount of vision he was going to have. An intelligent lady, on whom I recently made extraction, had had extraction made on one eye four years ago. When she came to make final arrangements for the operation on the second eye, she said, "I don't mind the operation a bit, but I can't bear the idea of lying on my back in a dark room for nine days as I did before." "Why!" she said, "they would not allow me to raise my head or chew anything, but kept me lying on my back until I thought I would die." The most marked advantages of this treatment over the old are:

First, less discomfort to the patient; second, much less danger to the general health of the patient; third, a more rapid recovery from the operation.

Needle operation and iridectomy have been treated in the same manner, except that the bandage was removed entirely the third day in most cases.

THERAPEUTICS OF PULMONARY PHTHISIS.

Read before the Monmouth Co., N. J., Medical Society.

BY GEORGE T. WELCH, M.D.,
OF KEYPORT, N. J.

It is excellent judgment, before debating the therapeutics of a disease, to inquire into its natural history and ascertain whether there are any instances of its self-limitation and any of its cure by the use of drugs. It is so much the habit of medical men, like hired archers, to rush to the rescue of every man assailed by a disease as if he were having his jugular vein drained by a tiger that, together with the promiscuous shower from slings and bows, and thrusts of the short sword, it is a cause for congratulation if the man escapes instead of his enemy. And it is altogether a matter of conjecture whether his individual prowess might have succeeded in ridding him of the object of attack. So much is this the case that I dare aver we know very little of the real natural history of any but the simpler forms of disease—the symptoms are so overlaid by the physiological effect of drugs. But that pulmonary phthisis is sometimes self-limited, and sometimes curable in a sense, would seem to be proven by a rare case now and then, though a vast majority of the affected die, and, as is shown by the Board of Health Reports for N. J., a little more than 23 per cent. of all deaths, among adults, in this State, is caused by this disease.

And yet some escape. Lænnec and Louis have demonstrated it in the wide range of statistics which they have marshalled to the fore, and it may be that every large neighborhood can furnish one instance. That this could be so before more enlightened methods of practice were followed by the advanced members of the profession within the last five decades, speaks volumes for the recuperative energy of that silent force which underlies all the manifestations of life. Dr. Griffith mirrored the practice in this State, at the end of the last century, in his "Dissertation on Pulmonary Consumption," read before the New Jersey Medical Society, May 3, 1791. It was "small blood-lettings frequently repeated, gentle emetics of ipecacuana, out-door exercise, expressed oils, mucilages, emollient vegetables, opiates, ripe fruits, low diet, laxatives, blisters, setons, issues and frictions."

When the patient, nothing loath, let us hope, had arrived by such stages, hard by the iron doors that fence immortality, and things were now desperate, the good doctor acknowledges he can not be saved, but if he could it must be done by smaller bloodletting and a lower diet!

In the year 1817, Dr. M. Freeman reports four cases cured out of seven by the following laudable means: "I push," says he, "the lancet and digitalis cautiously but freely; that is, I try to reduce the pulse below 65 or 70 for the first five or six days, after which I endeavor to reduce it lower and maintain the depression for two or three weeks, in spite of prostration and nausea. At the same time recommend milk and vegetable diet, together with a perfect tranquility of mind and a horizontal state of the body, when the pains are wandering about the thorax." Then he advises blisters, stimulating plasters, and a seton. All this for the first stage of the disease. For the second step—digitalis, a nourishing diet, which must not excite irritation. The patient upon any unruly manifestation of the disease must now take oxide of mercury and be kept salivated for two or three months, and must be dosed with a mixture containing "four grains of alkali and a fourth of tartar antimony, given according to the age and strength of the invalid."

By this means Dr. Freeman says that he cured J. Devoll, Mrs. Crowell, Mrs. Latourett and Mrs. Gage, all within a year, "now well and enjoying better health than they have had for twenty years past. Two of them were under ptyaloid symptoms for sixty days before the latter disease had the ascendancy of the former: they took more than 200 grains, and a constant application of the mercurial ointment." This atrocious practitioner ends by saying, "even in an advanced and fatal stage, if the stomach will bear these remedies, they will mitigate their distressing symptoms and thereby tend to smooth the declining passages and quiet the hour of death." Which is to say, if St. Lawrence had been dosed with calomel, antimony, digitalis, and been blistered, bled and tickled under his midriff with a seton needle, as he lay slowly consuming on the devilish gridiron of the Inquisition, he might have gone almost voluptuously to his death!

The practice did not change much for the next thirty years, though I find in the recorded Transactions of the State Society before 1850, occasional allusions to the decrease of phthisis as though it was at length succumbing to heroic measures, but as there was no basis in statistics for such assertions they must be amiably passed by.

About the year 1841, cod-liver oil became generally known, and was extravagantly lauded as a curative in this disease. Dr. Geo. B. Wood, (in the 4th edition of his work on the Practice of Medicine, 1855,) speaks of it as being of inestimable value, says he gives it in all cases of the disease and at all stages, and declares its universal use has reduced the death rate from 1 in about 6.76 from all cases before 1850, to 1 in 8.22. While Condie with some enthusiasm pitted the reduced mortality of 1850–51 against the twenty-three preceding years, as being due to cod-liver oil, though in the next two years the ratio increased. Late in his life Condie saw fit to modify his views as to the curability of pulmonary phthisis, and in a paper on "Spurious Consumption," pointed out the errors in diagnosis which frequently attributed a cure to the former disease when the latter was alone benefited.

Cod-liver oil gradually fell into some disrepute, as it was found that it was unfitted to several phases and stages of pulmonary tuberculosis, and at the best only delayed the fatal issue, until now it is the average opinion that it does not exert any influence upon the structural elements of the disease, but in all likelihood receives the credit of cure in those cases where the organic trouble is limited, or is benefited by such measures as have restored other patients without it. In my experience it has never answered the hope entertained for it, and I have within the last six years completely abandoned its use in the disease under consideration. The digestive organs, as is well known, speedily succumb in this affection and when dosed with the oil produce, besides the dyspepsia, a loathing for food which is justly a subject of great concern, and not to be tolerated. Even the emulsions produce, in my experience, the same unhappy effects.

And because of this weakness of the digestive apparatus I look upon over-feeding as a means of cure, as being barbarous and unscientific. I have not, however, condemned it without trial, but, though a certain tolerance for a time can be established, yet in a few weeks, or months at the best, it can be carried no further, and the fatal end is then provoked instead of banished. Emaciation progresses in well defined cases, even when a moderate appetite is present, showing assimilation is not perfect, and then to crowd the function of digestion, though assisting with artificial means, is to offer an overplus of nutritious elements to tissues that can not accept the bounty.

I recall several cases that for a time gave the most flattering promise under the use of maltines, alcoholics, hypophosphites, arsenic and tonics, but the medicines lost caste, they no longer held up the flagging energies, and I have often in bitterness of soul execrated the means that kept the dying on the rack. For better it seemed, as I recalled the last months or weeks of sickening, sinking disease, that one could give euthanasia than with such reprieves hold the poor wretch in sight of his open grave so long.

But I recall one case of a gentleman who had long been subjected to the extortions and doses of a physician who was also proprietor of a drug store. When he came under my care I prescribed maltine, syr. hypophos. co. (Fellows') and whiskey—nothing more. He had a racking cough, tuberculous deposits in one lung, night sweats, palpitation and loss of appetite. He was sent into a more genial climate for the winter, and the medicines were persisted in faithfully, in what seemed months of hopeless disease. The cough gradually grew less and finally ceased, the pain stopped, the heart regained its wonted tone, the appetite returned, flesh was gained—in a word the man was restored to his old vigor, and for four years has fol-

lowed his occupation as a market-gardener without a return of the disease. For awhile there was cavernous breathing, which in time became less and less noticeable.

W. N., a young man 20 years of age, who had cough, profuse sweating, loss of appetite, great debility, with signs of tuberculous deposits in the apex of each lung, and who was intractable as to the use of medicines, I sent to Florida, where, in a dry district, he spent his days in the open air for several months, riding mostly, driving, and as to drugs taking nothing but maltine. He returned in May without a trace of his former disorder, and continued well for two years and a half, when a severe bronchitis was contracted, from which he was slow in recovering but without awakening the old disease.

A. W., æt. 21, had cough, slight hæmorrhages, pain in the chest, pneumonic stitches, dyspnœa, evidences of the first stage of phthisis. He was sent to Colorado, and from there, by the advice of Dr. Denison, he went to New Mexico, investing in a sheep-ranch and roughing it on the plains for a year or two. Recovering, without drugs, from all his unfavorable symptoms, he went back to Denver, where he has now carried on a successful business, involving a great tax of energy, having several men under his employ, for the past four years, without any return of the disease.

I have sent other patients to higher altitudes, on sea-voyages, to Florida, and have used whatever means appropriate climatology presented, but these three cases are the only ones I can present of arrested disease. I am glad I can not remember how many others I have conscientiously treated in the light of all the recent authorities, without avail.

But to these three might be added another as coming under my notice, though not at the time he was consumptive. Mr. H. W. J., a banker, who at the time I first knew him, twelve years ago, had but just recovered from an abscess in his right lung. He had passed through all the symptoms of grave tubercular disease, but after this abscess had discharged itself, his health recuperated, and there were no further manifestations of the disease. I have examined his chest on many occasions. It is sunken on the affected side. Twelve years ago there was cavernous respiration, the voice was hollow, and there were yet flying pains about the thorax. As years went by cicatrization proceeded until now there is only a faint vesicular murmur to be heard, and though Mr. J. has had two attacks of bronchitis since, there have been no further symptoms of pulmonary disease.

Dr. Wm. A. Newall, late Governor of Washington Territory and long a practitioner in this county, has related before this Society his spontaneous recovery from pulmonary phthisis, under the influence of horse-back riding through the pine forests of this State, during some years of his early life.

Dr. I. S. Long, of Freehold, has given me the details of the recovery of a patient after profuse hæmorrhages, expectoration, sweating, and almost moribund condition, when the folorn hope of drugs had been called off. So, you will perceive it is in the natural history of this disease that patients sometimes recover without drugs, and in spite of drugs. But the cases are few, and the desert is covered with the mournful drift of whole caravans between.

There are a hundred so-called remedies I have not named, as oxygen, pneumatic differentiation, and others, but by a singular coincidence they that have an apparatus to sell are loudest in commendation of its process and results. Bergeon's method is the latest craze, and from observations in its use during a few days, or at most weeks, it did seem to hold out some promise, while lacking the test of time which has dispelled so many mirages. But it has already fallen into disrepute. So, while it is well to resort soberly to all that is reasonable and scientific, I can not too strongly reprobate the extravagant use of drugs, as I have seen in many cases in which various and diverse medicines were used for every important symptom: because the only known recoveries from this disease have been those in which the tuberculous deposit was limited, and were such as change to suitable climate and hygienic measures brought the highest result and would have been in all likelihood sufficient without the interference of so-called remedies.

VAGINAL HYSTERECTOMY: REPORT OF FOUR CASES.

BY J. H. ETHERIDGE, A.M., M.D. (RUSH),

PROFESSOR OF MATERIA MEDICA, RUSH MEDICAL COLLEGE; GYNECOLOGIST TO THE PRESBYTERIAN HOSPITAL AND TO THE CENTRAL FREE DISPENSARY.

The three cases reported herein were operated on at the Presbyterian Hospital. I can never convey an adequate idea of the relief to the operator offered by the method of hæmostasis by forcipressure on the broad ligaments over that of ligatures. I think no one can fully appreciate the untold superiority of the former method over the latter till he has had experience in the performance of that operation under both methods.

Case 1.—Mrs. S., æt. 47, mother of nine children, always well, presented herself February 1, 1887, with epithelioma of the cervix uteri. It did not involve the vault of the vagina. The broad ligaments did not seem to be thickened. Mobility of the uterus was complete. After preparatory treatment with a daily laxative and diuretic for a week, the operation was performed on February 8, 1887.

The cervix was easily drawn down to the vulvar orifice and, with scissors, its vaginal attachment was divided. Strong adhesions to the bladder and rectum were found, and in consequence thereof, the rectum was opened in one place and the bladder in two places in the process of freeing the uterus from these two organs. After the two broad ligaments were sufficiently isolated and the fundus was turned backwards and brought down, the left broad ligament was first penetrated and divided into two sections with heavy ligatures, and tied as securely as hands could tie them. It was then severed as closely to the corpus uteri as possible, and the whole organ came out of the vagina. Treating the right broad ligament similarly was a much easier matter, because the uterus was down and out of the way. This attach-

ment was at once severed and the whole organ was then freed from the patient. The ovaries were then removed. The rent in the bowel was closed by continuous suture without difficulty. The longer rent in the bladder was then closed by continuous suture, but it was done at a great disadvantage from its peculiar position, back of the symphysis and looking directly backwards. To draw down the bladder and to so evert the edges of the rent as to apply the stitches was a delicate and difficult task. The smaller rent, undiscovered at that time, was not closed. Just as this sewing up was completed there was observed welling up into the shapeless excavation left after the removal of the uterus great quantities of arterial blood. Which broad ligament it came from it was impossible to decide. After a long time the bleeding vessel, which was in the right broad ligament, was secured, but not till after a ligament was pushed off of the left broad ligament. All vessels were eventually secured, but not till a great quantity of blood had been lost. The top of the vagina was closed from before backwards with continuous suture, the ligatures were brought down, iodoform gauze stuffed into the vagina and the patient put to bed.

Reaction followed reluctantly. She died from peritonitis and exhaustion in 45 hours, having passed 8 ounces and 1 drachm of urine in the meantime. The autopsy revealed a small rent in the bladder, which was concluded to be the cause of the peritonitis.

Case 2.—Mrs. C., æt. 36, laundress; tall, spare, nervous, sanguine temperament, presented herself February 10, 1887, with a small epithelioma in the cervix uteri. The upper portion of the vaginal cervix was not invaded. The choice between amputation of the cervix and hysterectomy was left to the patient after full explanation of the dangers and results of the two procedures. She decided to have the latter operation, which was performed on February 25, 1887.

The uterus was easily drawn down to the vulvar orifice and freed from its vaginal attachment with the scissors. The bladder was uncommonly closely attached to the uterus, and before its complete separation was accomplished it was opened. The opening into the Douglas cul-de-sac was easily effected and the fundus rocked backward through the sacral hollow, down and out through the vulva. The broad ligaments were secured with silk ligatures and the uterus removed after its separation from them. The ovaries were separately removed immediately afterwards. In closing the vesical rent the left broad ligament shed its ligatures and bled profusely. Hæmorrhage was soon checked. The vagina was closed from before backwards, the ligatures were brought down into the vagina, and the latter organ was filled with iodoform gauze.

The patient rallied well. The temperature rose to 100° on the second and third days. Thereafter nothing worthy of special mention occurred. On the tenth day an elastic ligature attached to the patient's left thigh was tied to those protruding from the vagina, and in five days they began to come away and in 48 hours the last one was removed. In 36 days she left the hospital.

Case 3.—April 13, 1887. Mrs. C., æt. 49, widow; last confinement 28 years ago; she is still menstruating regularly every three weeks, flowing one week.

Six months ago she began to have leucorrhœa and to lose occasional small amounts of blood. She has excellent general health. She is a good breakfaster, digests well and is a good excreter from the bowels, kidneys and skin. She is well nourished, and presents a promising outcome for any surgical ordeal. The only thing that one could wish different in her general aspect is a too rapidly acting heart. It beats over 90 times per minute and the arterial impulse is persistent. She has often seen lateritious deposits in her renal secretion.

Examination reveals an epitheliomatous degeneration of the cervix, with about ¼ inch of uninvaded tissue of the cervix between the cancer and the vaginal vault. The uterus was about 4 inches deep and it bled freely upon withdrawing the sound. The fundus was large and was easily felt through the abdominal wall. The uterus was freely movable, indicating the non-implication of the lymphatics in the broad ligament. The absence of invasion of the vaginal wall and of the circumuterine tissues led to the recommending an operation for the removal of the entire uterus.

From April 19 till May 5, the date of the operation, she took cascara daily, and digitalis and acetate of potash. The condition of the excretions seemed as nearly perfect as possible prepatory to an operation. The patient slept in the hospital the night before the operation, and took the customary general antiseptic bath and had administered several vaginal bichloride douches.

Operation.—The cervix was drawn into the vulva with two large, lock vulsella forceps while the vaginal attachment to the cervix was divided with the scissors. Gradually and patiently the circumcervical tissues and the attachments of the bladder and rectum were crowded away with the finger-nail till the Douglas cul-de-sac could be opened. Then it was found quite impossible to reach the top of the fundus with the fingers. The cul-de-sac of peritoneum between the bladder and the uterus was then opened, with hope of being able to retroflex the uterus by means of the fingers placed before and behind the uterus. This manœuvre was found likewise to be an impossibility. After repeated vain attempts to reach the top of the fundus with the fingers, that method was abandoned. Trial of very deep suprapubic pressure to thrust the fundus back toward the sacral hollow, and at the same time of grasping and pulling down the fundus with a small vulsellum forceps thrust through the Douglas cul-de-sac, at last succeeded, after three or four tearings out of the forceps, in getting the top of the uterus out into the world.

Snap forceps were then placed on the broad ligaments and the latter divided. The subsequent dressing consisted in tucking a thin layer of iodoform gauze into the vagina, care being taken to avoid separating the top of the vaginal walls. The danger of this separation must be patent to any observer. Ribollet attributes the death of one of his patients to crowding too much gauze into the upper vagina.

No stitches were used to close the upper end of the vagina. Its borders were permitted to collapse and to close in any position that they chanced to occupy. The fear that the bowels and omentum might seek an outlet through the vaginal tract is wholly groundless. One ligature was used for a vaginal artery. No attention was paid to it in the final dressing. The ovaries were both removed after the uterus was finally separated from its attachments.

The patient reacted well from the shock of the operation, which consumed seventy-five minutes. Her daily progress was so uniformly satisfactory that any detailed descriptive statement of it would be monotony itself. The pulse ranged from 90 to 120 beats per minute; it was 98 when she left the hospital. The temperature reached 100° one *morning* only, and on five evenings, from third to the seventh days inclusive.

The amount of urine passed daily during the first fourteen days after the operation is indicated by ounces in the following figures: 19, 19½, 25, 23, 26, 24, 23½, 25, 30, 31½, 34, 40, 35 and 26½.

The forceps, one pair on each ligamentum latum, were removed at the end of 48 hours. Although anyone knows that 48 hours of obliteration of the lumen of an artery must necessarily destroy its patency, yet the writer was filled with misgivings when the forceps were very carefully unsnapped and as carefully removed as gentleness itself could supervise. The folds and creases of the vagina, as far up into the shapeless excavation as vision could peer upon an exaggerated separation of the vulva with the fingers, were watched with an intensity of eagerness and anxiety, for their being inundated with the hot scarlet blood that so easily comes from the ovarian and uterine arteries, that can be appreciated only by him who has experienced those emotions. No bleeding followed the removal of pressure from the uterine ligaments. The vagina was not again filled with gauze. Iodoform was blown into this cavern as far as was possible daily.

It was impossible to state definitely the amount of drainage that escaped. Perhaps 3 tablespoonfuls daily for the first two days would cover it; afterwards the amount could not have been more than 1 tablespoonful on the third and fourth days each. After the fourth day none escaped to mention.

Case 4 came to me in Oct., 1887, for an incoercible hæmorrhage from a small fibroid tumor in the posterior uterine wall. The patient, a woman 47 years of age, has borne eleven children, and has been having hæmorrhage for eleven years. Everything in the way of medicine has been tried; the uterus has been curetted upon two different occasions, and she came to me supposing the ovaries must be taken out. I explained to her that I had had two cases of removal of the ovaries for hæmorrhage, but that the operation had not cured the hæmorrhage. I also explained to her the danger of removal of the uterus and she consented to the operation. The steps were simplicity itself, being a repetition of what I have given. The cervix was easily drawn down to the vulvar orifice and the cervical attachments freed at once as speedily as possible. An incision was made in the cul-de-sac of Douglas and I was able with a knife to divide the tissues without any trouble. I kept as close to the uterus as I could, and did not open the bladder. When the two broad ligaments were all that supported the uterus they were secured with long snap forceps, and the broad ligament divided on the right and left sides. Snap forceps were put on the neighboring deep vessels; that was all the hæmostatic means that was resorted to from beginning to end.

The patient was put to bed about 3 o'clock, and about 6 I was telephoned that she was having a severe hæmorrhage. Concluding that it was one of the arterial branches from the vagina, I hoped that ergot would stop the hæmorrhage. When I reached the hospital I found that after the use of the rectal injection of ergot the hæmorrhage ceased. The case ran along very well for 48 hours; afterwards the temperature was 99° for two or three days and then it ran up to 101°. She was put upon the table and the wound exposed with a Sims speculum. Up in each angle or cornu of the wound was a black gangrenous-looking mass about as big as my little finger, hanging down upon the vagina; which mass protruded from a little cavity filled with the débris of blood, which had probably been produced by the hæmorrhage on the day of the operation. It had decomposed and was smelling very badly. That mass was pulled out. In the other side I was able to pass the forceps up a distance of about 1½ inch. I removed all of the shreds and put the patient to bed. The temperature at once went down to 98.2°, and since that time everything has progressed satisfactorily. This is the twenty-first day since the operation. I saw the patient this afternoon, and she calls for solid food and is to sit up to-morrow. The following are some points of interest concerning this operation:

1. *Indications for its Performance.*—(a) Ten years ago, and indeed until quite recently, the chief indication for the performance of vaginal hysterectomy was malignant disease. At present it is agreed by all operators that the earlier it is performed for cancer the greater are the chances for its non-recurrence. This dread malady always returns sooner or later after amputation of the uterine cervix, and of course proves fatal; whereas, when the whole organ is removed, the patient is given the only hope of a permanent recovery. Hysterectomy does not always prevent recurrence of the development of this neoplasm, yet it offers the best results. Martin reports 8 cases of hysterectomy from cancer without relapse, varying from two and one-half to five years. According to Sänger the average of survival after this operation is eleven months. Olshausen reports cases after operation of relapse, once after eighteen months, twice after two years, and twice after three years.

The most favorable conditions offered for hysterectomy are the non-involvement of the vagina, and complete mobility of the uterus, which shows the non-invasion of the *ligamenta lata*. In other words, the earlier in the disease the operation can be performed the better are the promises of a radical cure. Only too often does it occur that the disease

has advanced too far before the gynecologist is consulted.

(b) *Procidentia uteri* is another condition for which this operation is performed. Anaplastic operations do not always restore the organ to its normal level. Artificial vaginal stenosis to the extent of the non-admission of the little finger has failed ultimately to relieve the procidentia through gradual dilatation of the vaginal channel.

(c) Fibrous bodies of the uterus which offer the point of departure for serious irregularities have constituted a cause for vaginal hysterectomy. Of course reference is had to small tumors. Heydenreich reports four cases of operation with four successes. He[1] considers that at present it is impossible to pronounce upon the relative merits of vaginal hysterectomy and of castration for small fibrous bodies in the uterus. Péan[2] recently reports a case of the same operation for multiple fibroids.

(d) The hystero neuroses (inveterate dysmenorrhœa, neuralgia, convulsions, etc.), for which oöphorectomy is so often performed, Péan considers a justifiable cause for this surgical procedure. His reasoning is, that these neuroses sustain an intimate relation to the uterus itself, consequently the uterus should be included along with the tubes and ovaries (Caldwell. Paris Letter in *Chicago Med. Jour. and Examiner*, February, 1887.)

As an illustration of the *furor operativus*, a recent article from the pen of a Cologne surgeon, Dr. Frank, may be mentioned, which is published in the April 3, 1887, number of the *Archiv für Gynäkologie;* it enumerates the following cases of removal of the entire uterus: For endometritis, four cases; for retroflexion or retroversion with fixation, three cases; *pruritus uterinus*, once; and for neuralgia and retention of urine, one case. The members of the medical profession can scarcely read the account of these cases without being astounded at the amazing temerity of such proceedings.

The various steps in the operation consist in, 1. freeing the cervix from its attachments, 2. hæmostasis and 3. the subsequent dressing.

1. The cervix must be drawn down with forceps into the vulvar orifice if possible and the vaginal attachment severed with any cutting instrument, a bistoury, a blunt or a sharp-pointed scissors. Some operators prefer one instrument, others another. It is a trifling choice to make between them. The vulva should be held open laterally by retractors deftly held just within the ostium; if they are thrust into the vagina too far they prevent the forced descent of the uterus. If they are wide enough a perineal retractor is unnecessary. Just before making the initial cutting it is well to push up the cervix (which has been drawn down) to its natural level and mark with the eye where the vagina is attached, and then draw down the organ and begin proceedings. This point is rather important because no one can tell where the vaginal wall terminates and the cervical covering begins, and one is invariably inclined to begin the denudation too far away from the cervix and thus to open the bladder. The encircling of the cervix can be made at once with tissues pushed away from the uterus in all directions till the broad ligaments are reached, when they will of course not be disturbed. The gravest necessity exists for keeping exceedingly close to the cervix anteriorily, otherwise the operator will find that he has opened the bladder almost before he has any idea that he is dangerously near it. By keeping as closely to the cervix as possible another important, nay vital, advantage will be gained, viz.: the avoidance of wounding the ureter, which perforates the bladder just above the middle of the anterior vaginal wall. Wounding this duct complicates matters most wofully in that it necessitates the extirpation of the kidney. The surest way of determining the dangerous proximity to the ureter is to discover the pulsation of its accompanying artery which is a branch of the uterine artery and is of considerable magnitude. Absolute safety from wounding this important channel is guaranteed to him only who keeps closely enough to the cervix in its denudation. Very soon the finger can be made to penetrate the peritoneal cavity as will be indicated by its feeling the fundus covered with the smooth, glistening peritoneum. The freeing the posterior cervical wall should be prosecuted with the same care to remain close to the uterus and thus avoid opening the rectum. The finger easily penetrates the Douglas cul-de-sac and the body of the uterus can then be explored readily. Up to this point, when the peritoneal cavity is opened the bleeding is considerable though not at all alarming. It is best to proceed as rapidly as possible and not to attempt to check hæmorrhage. Occasionally the peritoneum is tough and cannot be perforated by the finger; then a blunt-pointed pair of scissors, *closed*, can be thrust into this cavity, quickly opened and withdrawn, leaving an opening large enough to admit the finger.

After opening the posterior cul de-sac some operators push a soft sponge into the peritoneal cavity to remain there till the operation is terminated, for the purpose of preventing the entrance of noxious matters and of keeping the bowels up and away from possible injury. It also serves the purpose upon its withdrawal of drawing down the ragged edges of the peritoneum so that in the wound peritoneum lies apposed to peritoneum, a most desirable position to be secured.

At this point two proceedings lie open: one is to bring the fundus down through anterior cul-de-sac or through posterior cul-de-sac—*i. e.*, to acutely and completely flex the uterus—and the other is, to let flexion entirely alone and to proceed at once with the treatment of the *ligamenta lata* with reference to preventing other vessels from bleeding and dividing them, and thus freeing the uterus wholly from the body. Another plan resorted to before removing the organ has been, after securing the broad ligaments, to bisect the uterus from fundus to os, and to remove each half separately. It must be a very exceptional case demanding this proceeding. When the uterus is small. flexion is an easy matter. When large it is a very difficult matter, and when very large it is a feat impossible to accomplish.

[1] Albert Heydenreich. De l'hysterectomie Vaginale. Semaine Méd., Paris, 1886, vi, 69, 70.

[2] Gazette des Hôpitaux, October 12, 1886, pp. 950, 951.

C. Staude[1] recommends opening the Douglas' cul-de sac first and retroflexing the uterus completely before opening the vesico-uterine cul-de-sac, in order not to permit the cancerous cervix to enter the peritoneal cavity as the fundus is brought downwards. The ante-uterine peritoneal space thus shut off will effectually prevent the cervix entering it. However, with the cervix firmly held by the vulsellum forceps it is impossible for it to ascend into the peritoneal cavity as the fundus is brought down. Furthermore, if the ante-uterine peritoneal space be not opened the work of securing the lateral vesicular supply must be greatly embarrassed, and the danger of wounding the ureters greatly, almost infinitely, increased.

The second step in the operation consists in hæmostasis and it includes securing and dividing the broad ligaments.

The devices that have been used to secure hæmastasis are almost legion. Until very recently silk ligatures only were used to secure the whole mass of the ligaments or to secure it in separate divisions by the continuous or by the loop method. Later the ecraséur, wire or the elastic ligature has been used. The cautery has been used. A separate catgut ligature for each tube has been recommended. Needles with a great variety of curves have been devised. The application of ligatures is attended with much difficulty, often failing in the most skilled hands.

By far the best method of accomplishing hæmostasis is the snap forceps. It is a sure method, it abreviates the operation and affords, additionally, perfect drainage. Before using them it is always well to test the ratchet and ascertain whether they will hold permanently. Occasionally forceps will unsnap and a greater calamity cannot befall an operator than to have that occur after leaving the patient. Tieing the forceps together when in doubt about their reliability can be done.

After the peritoneal cavity before and behind the uterus has been opened and the uterus has been completely flexed, when possible, and is retained by the *ligamenta lata* only, the latter are ready to receive the forcipressure. With the forefinger of the left hand hooked over the superior margin of the left broad ligament the right hand can adjust the forceps to compress the whole width of the ligament and tighten the instrument to the last notch. It is best to attach it as near to the uterus as possible and yet permit room for dividing the ligament easily at its uterine end. While adjusting the forceps it is of course scarcely necessary to mention the desirability of not including in them a bit of omentum or a piece of intestine. I know of no greater satisfaction in gynecological operations that the operator can experience than in tightening hæmostatic forceps on a broad ligament—a satisfaction greatly intensified when one has previously had the appalling accident occur of the shedding of the silk ligatures after the broad ligament has been permitted to contract and withdraw into the pelvis up out of sight.

When the uterus cannot be flexed, the forceps have to be applied in the best way that can be devised. With a much enlarged uterus the forceps can be applied to include broad ligament to the extent of the width of its jaws, that amount of ligament can be divided and up through the divided segment another pair of forceps can be pushed to include the remainder of the ligament, which in turn can be divided. When the finger cannot reach the superior margin of the ligament, the lower section of each ligament can be seized and divided, when it will be found that the whole organ can be made to descend and thus the entire ligament upon each side can be divided. When this procedure is necessary the difficulty of practicing it is greatly increased because of the narrowing of the vaginal space.

After removing the uterus the parts should be allowed to retract in order to allow any vessels to bleed that are prevented from it by their traction. By this means arterial twigs are often discovered which otherwise escape detection. All further arresting of hæmorrhages can be accomplished easily with forceps. This step in the operation is of vast importance, since hæmorrhage can not only result fatally, but even when not large it can become the unsuspected cause of a fatal peritonitis.

The last step of the operation concerns the management of the womb. The most elaborate sewing and draining of the vaginal cavity have been resorted to. Stitching the peritoneum to the vaginal wall is regarded necessary by some operators. One operator recently stated in his report of a case, that he stitched these two tissues throughout in order to prevent vaginal wall hæmorrhage. Stitching the anterior marginal border of the rent to the posterior border and drawing the ends of the ligatures out through their centre have been very commonly done. Running a purse-string suture around the top of the vagina with a piece of rubber draining tube and the ligatures passing through the middle of the puckering has been used.

Sewing up the vagina is wholly unnecessary in most cases. These various closings of the vagina have been regarded as essential to keep back the bowels and to prevent septicæmia through the vagina. Of the former there is a minimum danger. When the operation is completed the superior vaginal opening collapses as thoroughly and completely as the *ostium vagina* closes. The oozing opposed surfaces at once interdigitate and inaugurate the preliminary processes of union. They do not lie idle for 24 or 48 hours before commencing union is set up. At the end of 48 hours the top of the vagina is all closed to the passage of fluids excepting through that portion of it occupied by the means of drainage.

The use of iodoform gauze in the vagina is of the utmost importance and when wrongly used is a source of danger. The vagina must be absolutely aseptic, and herein the gauze filled with iodoform becomes of such great service. Stuffing the vagina too full of this agent keeps apart the walls of the top of the vagina and prevents their union.

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[1] Deutsche med. Wochenschrift. Berlin. 1886. xii, 602-604.

A CASE OF CHRONIC PANCREATITIS, WITH SYMPTOMS RESEMBLING MALIGNANT DISEASE.

Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, November 9, 1887.

BY E. L. CALL, M.D.,
OF BOSTON.

Mrs. B., age 62, widow, was first seen February 24, 1886. She was of medium height and weight, her skin was sallow, and her countenance haggard and anxious. Her habits of life were regular, and her hygienic surroundings good. She said she had been well till within the past three or four months, but more searching inquiry showed that her appetite had been very capricious for a number of years, and that during the last year she had lost strength and a moderate amount of flesh. Her diet had been mostly of the saccharine and starchy foods, as she had always disliked meat. For the past few months physical exertion of any kind had tired her out of due proportion, and during the last few weeks even moderate exercise had been followed by breathlessness and beating in the arteries of the neck. There was complete anorexia, and the bowels were very constipated.

The physical examination was as follows: Skin, a muddy yellow; tongue, rough, slightly coated; lungs, normal; heart, normal in size and position, moderate blowing murmur throughout the cardiac area, most marked over the base; abdomen, normally resonant; liver dulness normal; no increased spleen dulness; pelvic organs, normal; urine normal.

In consequence of the negative result of the examination, the case was regarded as one of profound anæmia; and the treatment was directed toward regulating the bowels and assisting nutrition by easily digestible food and some of the most assimilable forms of iron.

The gravity of the symptoms increased rapidly; the simple act of rising from her chair caused dyspnœa, food of all kinds was very repugnant, the skin grew more sallow and the feet œdematous. She vomited occasionally, especially after any unusual movement. Temperature 100°; pulse weak, 90 to 100. This rapid change for the worse made me feel that the case must be either one of pernicious anæmia or some concealed organic disease, and I therefore asked for a consultation.

Dr. R. T. Edes saw the patient with me, March 16. He did not thing the anæmia profound enough to warrant a diagnosis of pernicious anæmia, but as he could find no proof of organic disease, he advised full doses of liq. pot. arsen., and gave a very guarded prognosis. A microscopical examination of the blood showed the red corpuscles notably diminished. No increase of white corpuscles, and none of those irregular forms of red corpuscles characteristic of pernicious anæmia. The patient was kept in bed and fed *per rectum* as well as by mouth.

She improved for a time under this regimen, the dyspnœa becoming less troublesome, so that during part of April and May she was able to go down stairs, and to ride out occasionally. In fact, the dyspnœa did not trouble her again to any amount till just before her death. I never felt, however, that the improvement was permanent, for her color remained bad, and she did not gain flesh nor appetite.

Early in July she complained of fluttering in the epigastrium, and her distaste for food was so great that only the force of a strong will enabled her to eat or drink. The abdomen was again examined, slight increase in liver dulness was noted.

On August 16, she had a sharp attack of hepatic colic followed by intense jaundice, and so much nausea that she was fed entirely by rectum for five days. She rallied very slowly and now began to lose flesh quite rapidly.

On October 14, she had another attack of hepatic colic, and passed a gall-stone the size of a pea. After this the signs of digestive disturbance were more marked. She complained constantly of a burning pain under the lower end of the sternum coming on about two hours after eating. She also complained of a feeling of weight in the bowels when she sat up, as if some heavy body were dragging from the spine. As she was certainly the least nervous or imaginative person that I ever met, these symptoms deserve more attention than they would in ordinary cases.

The bowels were either constipated or relaxed. The stools varied, being sometimes perfectly normal in appearance, sometimes sticky and putty-like, sometimes gray in color, often they contained undigested food. Throughout her illness every stool was examined by her daughter, an unusually intelligent lady, and I saw many of them myself, but never could see or hear of any of the fatty stools considered to be characteristic of pancreatic disease.

Early in February, she began to vomit irregularly and complained constantly of distress after eating. She never had another paroxysm of hepatic colic, but she grew deeply jaundiced, vomited constantly for five days, the feet and limbs became œdematous, the pulse rose to 120, and death seemed imminent. During all this time no tumor of any kind could be felt in the abdomen, nor was there any tenderness nor tympanites except just after the attacks of colic. It seemed to me, however, that there must be some disease, probably malignant, in the region of the duodenum, liver or head of the pancreas, but wishing to get all the light that greater experience could give, I asked Dr. M. Wyman to see her with me. Dr. Wyman thought the case was either one of pernicious anæmia or malignant disease, probably the latter.

The vomiting gradually ceased and she rallied slightly again, and from this time, January 4, till her death, February 14, it did not recur to any extent. She now began to suffer from what she called "nervous twitches." She insisted that she had no pain, but she lay as if prostrated, moaning with every breath, her features pinched and deathly pale. In fact, her appearance was exactly as when she was suffering from hepatic colic, except that there was constant twitching of the feet and legs, and oc-

casionally of the arms. These movements were to a certain extent, but not entirely, under the control of the will. The attacks came on at first only occasionally, but they grew more and more frequent, until during the last two weeks of her life, it was necessary to keep her constantly under the influence of sedatives to give her any rest from them. She grew gradually weaker, and died February 14.

Autopsy, twenty-six hours after death. Rigor mortis well marked. Skin a dirty yellow. Body and limbs much emaciated. Owing to circumstances which so often hamper the performance of autopsies in private families, I was only able to examine the abdominal cavity.

The muscular layer of the abdomen was very thin. The abdominal cavity contained a small amount of clear serum. The intestines looked very anæmic. The small intestines were contracted, the large intestines unusually long and somewhat distended, the walls in some places so thin as to appear almost transparent. No trace of peritoneal adhesion or inflammation.

Liver slightly enlarged, rather pale, yellowish, surface perfectly smooth, but rather firm in texture.

Gall-bladder the size of a large pear containing three large and many small gall-stones. Bile very dark and viscid.

Stomach empty. Walls very thin; not the slightest appearance of malignant disease in the stomach or duodenum. Upon raising the stomach the pancreas was seen, larger than normal, dark gray in color, and so firmly adherent to the vertebræ and posterior abdominal walls that it was detached with great difficulty. The attachment to the duodenum was also over a larger surface than usual; the gastro-splenic omentum much thickened. Upon removing the pancreas, it looked so large and firm that I felt assured that there must be a deposit of cancer in the head, and that the diagnosis of malignant disease was correct. The specimen was placed in alcohol for further examination, but it was found impossible to harden it; in fact, it grew softer, and large quantities of fat seemed to have been dissolved out by the alcohol and floated upon the surface. A microscopical examination, in which I was kindly assisted by Dr. Blodgett, showed a large increase of connective tissue, an abundant deposit of pigment, with very little trace of acini or glandular epithelium, a considerable amount of fatty degeneration. The specimen gives a very poor idea of its appearance when removed from the body. Its size has diminished at least one-half, by its seven months' immersion in alcohol, while the texture is softer and more friable. The portion of duodenum attached shows the opening of the ductus communis and the canal of Wirsung. The gall ducts are very much dilated. The opening of the portal vein is seen toward the head, while the superior mesenteric artery runs along its posterior surface, and the splenic along its upper border.

I bring the case before the Society as one of pancreatic disease, although I am quite aware that it may be an open question how far the condition of the pancreas was answerable for the symptoms. There is so little known of the pathology of this organ, that it seems right that every case in which an abnormal condition is found, should be recorded. Almost all reported cases are those of carcinoma, in which it is very difficult to separate the symptoms common to many carcinomatous growths from those due to injury of the gland. Moreover, in most of these cases the disease has extended before death to neighboring organs.

Experiments of removing or destroying the pancreas in animals, show diverse results. While in some, rapid emaciation, fatty diarrhœa, and death from inanition, rapidly follows, in others the pancreatic secretion seems to be replaced by some other digestive fluid, so that the nutrition of the animal suffers very little. This is notably the case in the experiments lately published by Senn in his articles on "Surgery of the Pancreas."

The chief symptoms supposed to indicate pancreatic disease are rapid emaciation, jaundice, diarrhœa and constipation, fatty stools and cœliac neuralgia; but no one of these symptoms seems to be invariably present, and only one, the fatty stools, pathognomonic. In about twenty-five cases which I have been able to collect, of disease of the pancreas, mostly malignant, in only two were the fatty stools prominent, though doubtless in many search for them was not made, as the disease was not diagnosed before death.

A symptom mentioned by Friedreich in "Ziemssen's Handbook," and by Starr in "Pepper's System of Medicine," is a feeling of weight in the epigastrium, particularly on assuming the erect position, as if a heavy body were pulling from the spine. This symptom was constantly complained of by my patient, so long as she was able to sit up. I cannot help thinking that the paroxysms of nervous distress which were the cause of so much suffering to her, were some form of nervous disturbance produced by pressure on the nerve structures surrounding the pancreas, and were analogous to the attacks of cœliac neuralgia mentioned by many authors.

Although all writers on pancreatic disease describe a chronic hyperplasia of the connective tissue of the pancreas as one of its diseases, I can find the record of only one case which seems somewhat similar to the one I have here described. This was reported by Dr. Tyson in the *Philadelphia Medical Times* in 1882. The case was that of a lady 68 years old, who had always been well until an attack of pneumonia in February, 1880. From this time she had more or less disturbance of the bowels. In July, 1881, she was seized with severe diarrhœa and clay-colored stools. This was quite persistent, and accompanied by irregular distension of the abdomen, apparently from areas of flatus. Later, a small indistinct lump was discovered below the umbilicus and to the left. The diarrhœa continued and the stools were distinctly fatty. She emaciated rapidly, and died March, 1882.

At the autopsy, the lump had disappeared behind the stomach, but was found to be the head of the pancreas, which was unusually resisting but not much enlarged. Upon examination the secreting

structure of the pancreas was found to be nearly all atrophied and its place occupied by a fibrous tissue. In this case, also, the organ was so much shrunken and altered by the preserving fluid as to present a far less striking appearance than when removed from the body.

But in addition to the condition of the pancreas itself, I wish to call your attention to the parts surrounding it, as it seems to me that we may find there an explanation of some of the symptoms not otherwise accounted for. The adhesions between the head of the pancreas and the vertebral column were so firm that I was obliged literally to dig the gland out of its bed. The connective tissue seemed almost leathery in its toughness and resistance.

You will remember that the cœliac axis gives off its branches just at the upper border of the pancreas, the semilunar ganglia of the solar plexus lie partially behind the gland, while the superior mesenteric is given off from the aorta just at its lower border. In this case, as will be seen by the specimen, the superior mesenteric is given off above the pancreas and runs across its whole posterior surface, and therefore could hardly fail to be compressed between it and the spine, where the adhesions were so firm as in this case. Even a moderate amount of compression on the artery supplying the whole of the small intestines would probably modify their nutrition and render their digestive fluids unable to supply the want of pancreatic secretion, as it probably does in some cases. The semilunar ganglia would be even more easily compressed than the arteries. Since they are the sympathetic nerve centres which modify the nutrition of all the organs of digestion, any injury to them would probable affect the proper performance of the function of those organs.

There is no doubt that the attacks of hepatic colic were instrumental in hastening the fatal termination of the case.

I suppose it may be asked whether this was not really a case of pernicious anæmia and the condition of the pancreas, etc., only a secondary result of the anæmia, instead of being its cause. Against this speaks the age of the patient, her comfortable circumstances and regular life, the high degree of emaciation, the absence of fever, and the fact that at the autopsy the organs, though anæmic, had not that absolutely blanched appearance described as characteristic of pernicious anæmia.

I hope, however, that those who have had more experience than I have in this disease will give the Society the benefit of their opinion on the question.

MEDICAL PROGRESS.

Surgical Tuberculosis.—(See the numbers of The Journal for Oct. 29, Nov. 5, 12, 19, 26, Dec. 3, 10 and 17.)

45. Not without consideration for surgery is the question, in how far does tuberculosis of itself cause suppuration, and in how far are the softening and suppuration of tuberculous foci favored by the entrance of septic material, that finds a suitable soil in the dead tissue masses of such foci?

The regularity of softening and ulceration in the tuberculous conditions of the respiratory and intestinal tracts, contrary to the extraordinary frequency with which tuberculosis of bones and joints heals without suppuration, or at least exists for as much as a year without suppurating, is very striking. The older authors often asserted that high fever accelerated the softening of the tubercle.

46. With regard to the localization of the foci in the different organs, regions of the body and tissues, tuberculosis shows the greatest difference in children and adults; and in regard to the curability and the danger to life, exact statistics on this point are desirable. It is well known that spina ventosa occurs only in small children, and tuberçulosis of the shoulder-joint almost exclusively in adults; and the tuberlous suppuration of the knee-joint, running a very torpid course, is found almost exclusively in the latter.

In children the process of cure is very much more ready than in adults. Tuberculous diseases also recede without suppuration very much more frequently in children. Even the most severe tuberculous bone and joint affections, complicated with the most extensive disturbances, may heal spontaneously in children. Here conservative surgery has made a great field, while in similar cases in adults a cure can be obtained only by removal of the diseased portion, and often only by amputation. Tuberculous bone and joint affections in children are easily self-circumscribed. The diffuse suppuration of the whole carpus, as frequently occurs in adults, especially in elder persons, is scarcely ever seen in children. And when a rather rare case of suppurating tuberculosis of the carpus is seen in a child, the process remains limited to that joint. All the cases that I have seen in younger children were cured by drainage and scraping. Similar conditions prevail in the foot. From puberty onwards the prognosis becomes gradually worse. The cases become more numerous in which conservative principles cannot be applied.

Tuberculous focal affections of external organs combined with tuberculosis of the lungs are very much less frequent in children than in adults. In a somewhat old person, that has, for example, caries of the wrist, it is an exception that he has not already or soon will have tuberculosis of the lungs.

47. The battle as to the identity of tuberculosis and scrofula is still being fought. It must be first settled what forms of the lighter so-called scrofulous affections are produced by the tubercle bacillus. In a case of eczema of the arm that, I believe, every dermatologist had diagnosticated as eczema, and which I examined only because scrofulous softened cubital glands were present, I found tubercle bacilli in the eczematous masses of epidermis scraped off.

We must next find out in how far chronic inflammations, hyperplasias, and especially tissue changes, that offer a favorable soil for the tuberculous virus, are caused by scrofula. It seems that such a relation is proved by the lymphatics.

Finally, it must not be overlooked that in the dispute as to the identity of scrofula and tuberculosis the question is often placed improperly and illogically. Tuberculosis one generally thinks of as a local process, and scrofula more as a certain unknown constitutional and nutritive anomaly, as a special disposition, diathesis, as an hereditary predisposition, which in great part coincides with what is taken for tuberculosis.

A person that shows not the slightest local change and no deviation from the normal on the most rigid examination of his organs we say is not tuberculous; but we reckon as scrofulous a now blooming and completely healthy child that has already gone through a series of affections that we call scrofulosis. And we would perhaps even call it scrofulous if only a part of his relatives had suffered from scrofulous affections, and tuberculosis was in his own family and house.

48. It cannot be doubted that certain drugs applied locally to tuberculously diseased tissue exert a curative, and perhaps even a specific influence. The favorable action of preparations of mercury on lupus, for example, is not to be disputed. Still, opinions differ very widely, and a further and comparatively test of such drugs is very much to be desired. With the preparations of mercury may be mentioned especially iodoform, iodine, arsenic, lactic acid, etc. What has been said applies with still more force to the internal use of such drugs.—*Langenbeck's Archiv*, Bd. 33, Hft. I.

USTILAGO MAYDIS AS AN OXYTOXIC.—DR. W. A. N. DORLAND, of the Philadelphia Hospital, after a study of ustilago maydis, summarizes as follows:

1. The toxicology and physiological action of the drug—No cases of poisoning in man by the drug are on record. That it is, however, possessed of toxic properties in large doses has been proved by Mitchell. He found that in the lower animals, in large doses, it acted violently upon the spinal cord, paralyzing first the sensory, later the motor tracts, finally involving the motor and probably also the sensory nerves. Like ergot, then, it is probable that the chief force of the drug, in toxic doses, is expended upon the nerve centres, producing a toxic paralysis.

The action of ustilago upon the uterus has been more carefully noted. After the ingestion of a sufficient amount, in from twenty minutes to half an hour, the pains, if present, are increased in severity, in frequency, and in duration, presenting a marked *clonic* character, following each other in frequent succession, with a decided intermission between each. In this respect it differs decidedly from the action of ergot, which, in full doses, produces one continuous, *tonic* spasm of the uterine muscle. It is this property of ergot which has, when administered before the delivery of the placenta, produced in so many instances the irregular contractions of the uterus, of which the hour-glass is a well-known example. The employment of ustilago seems to be entirely free from such unpleasant complications. In addition to being a valuable adjuvant in stimulating weak uterine contractions, ustilago seems to possess the property, which some years ago was ascribed to quinine, namely of exciting uterine pains when entirely suspended.

As to the time required for the action of the drug to become apparent, it may be said that it differs in different cases, depending, undoubtedly, upon the rapidity with which it is absorbed from the gastro-intestinal tract and carried into the system. In only two instances did it require over thirty-five minutes before the ustilago acted upon the uterine tissues, and in one case most of the drug was ejected by emesis. In the remaining seven cases the average time required was twenty-five minutes.

The effect produced by ustilago upon the other unstriped muscular tissues of the body has not been inquired into. Probably it produces the same increase of intestinal peristalsis and the same rise in the arterial pressure due to vaso-motor spasm as is produced by ergot. This is yet open to investigation.

2. The indications for the employment of the drug.—We shall consider the first indication for its use to be the failure of the pains, with *complete dilatation of the os uteri.* In none of the cases was the drug employed until the pains of labor had either become so weak that they were inefficient to accomplish the expulsion of the fœtus, or until they were entirely suspended. This, then, we consider the second indication for its use, namely, the *inefficiency or entire suspension of the parturient pain.* After the ustilago had been taken, it may also be noticed that in no case was there the slightest tendency toward a post-partum hæmorrhage. In each case, after the expulsion of the placenta, the uterus remained in a state of firm contraction. While, during the three months the great majority of the remaining cases, in which the customary ergot had been employed, showed no tendency whatever toward this alarming accident, however, in two instances was there such an occurrence demanding prompt attention. The third indication, then, for the employment of ustilago we shall consider to be *a condition of uterine inertia threatening or producing post-partum hæmorrhage.*

3. The dose and mode of administration.—The preparation of ustilago employed in all reported cases, as well as in our own, was a good fluid extract. The dose of this varies from one-half to two drachms, one drachm being a fair average. This may be repeated at intervals as required. Should it be necessary, it may be used hypodermatically in doses of from five to fifteen minims.

Finally. *The advantages of ustilago over ergot.*—The employment of ustilago seems much to be preferred to that of ergot. It does not produce irregular contractions with all the consequent complications and sequelæ; containing but 2½ per cent. of fixed oil, while ergot contains from 25 per cent. to 28 per cent., the dangers of absorption are reduced to a minimum; and finally, as it can be procured at a cost of 50 per cent. less than that of ergot, it seems to be on a fair highway toward the supplanting of the latter in obstetrical practice, should the results of the investigations thus far be confirmed by subsequent researches.—*Medical News*, Nov. 5, 1887.

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MEDICAL LEGISLATION AND THE STANDARD OF GENERAL EDUCATION.

In The Journal of the 17th inst., attention was called to the necessity of securing more uniformity in the laws enacted by the several State Legislatures for the regulation of medical education and practice, and to the fact that a special committee had been appointed by the Section of State Medicine to prepare the draft of a law for that purpose, and report the same to the Section during the next annual meeting of the American Medical Association. It was also suggested that any law, to be of real value, must be so framed as to secure the actual accomplishment of three leading objects, namely: a fair and creditable standard of general education for the student before being permitted to enter upon the study of medicine; a thorough knowledge of all the recognized branches of medicine; and a competent and impartial tribunal or Board, in each State, to determine by adequate practical tests when the two preceding standards or requirements have been complied with by each individual candidate asking for admission to membership in the medical profession. Fair investigation will show that no law can be framed, the execution of which will materially improve the education and usefulness of the medical profession, unless its provisions are such as shall establish and enforce a standard of education as a prerequisite to the study of medicine embracing, in addition to the ordinary elementary branches, at least a thorough knowledge of mathematics, physics, the natural sciences and English literature.

The law, to be of value, must not only specify plainly the minimum requirements for commencing the study of medicine, but it must provide the tribunal in each State whose duty it shall be to examine and register all persons proposing to commence the study of medicine, and to issue certificates to those only who are found qualified in accordance with the standard given in the law; and no *time* shall be allowed as having been spent in pursuing medical studies until such registration and certificate has been obtained. To accomplish this does not necessitate a multiplication of State Examining Boards. The same Board that decides the qualifications of the students in medicine and awards to them the license to practice, should also examine and decide upon the preliminary qualifications of those proposing to study medicine. If it be said that the requirement compelling every person proposing to study medicine to spend the time and money necessary to demonstrate to a State Board of Examiners his fitness for entering upon the important field of professional study, would deter many from making the attempt, the obvious answer is, so much the better for all the parties interested. Better for the individual to be thus stopped at the threshold and turned into some vocation better suited to his capacities, than to pass him through the door without a question and permit him to spend three years of valuable time, with several hundreds of dollars, and then reject him; or, still worse, pass him through the second door into the ranks of a profession already crowded to excess, where little else than a life of disappointment and poverty awaits him. Better, far better also would it be, for both the profession and the community, if such a reasonable barrier were interposed where the first step towards professional study is to be taken.

It would be the most effectual mode of compelling all parties to recognize the fact that the successful study and practice of medicine actually requires a preparatory mental discipline that can be acquired only by a fair general education. It would not only materially lessen the number entering upon the study of medicine and thereby aid in lessening the evil of overcrowding the professional ranks, but it would do it by turning aside the very class whose free admission heretofore has done more to lower the standing and usefulness of the profession than any other influence that could be named. There has been manifest a somewhat persistent disposition to hold the medical colleges responsible for the proper preparatory education of the students they admit to their halls. Experience, however, long since demonstrated its impracticability. It is true that we have several medical colleges, chiefly connected with established universities, the faculties of which have faithfully

endeavored to maintain some standard of preliminary education as a condition for admission to their instruction, and these will continue to do so, while they see year after year the same persons whom they have refused matriculation, go directly into other colleges where no preliminary questions are asked. A very few years since the Illinois State Board of Health gave notice that it would not recognize any medical college as in "good standing" that did not require a certain standard of preliminary education nor issue a license to practice in that State to any one founded on the diploma of such college. In consequence a large number of colleges inserted a paragraph in their next annual announcement stating that the proposed standard of preliminary education would be required, and thus retained their "good standing" with the Illinois State Board. But practically the clause thus inserted had the same kind of influence, though less durable, on the educational qualifications of the students admitted to the colleges, that the fence-post, clothed with an old coat and hat, does for a "scare-crow" in the farmer's cornfield. It frightened a few of the more timid away for the first year, until they had time, by correspondence or by the names of acquaintances they saw in the list of students contained in the next announcement, to learn that the preliminary examinations were of such a character that "no applicant had yet failed to pass." If any of our readers are inclined to place value on the preliminary requirements of such colleges as have been induced to insert the clause relating thereto in the annual announcement in obedience to the demands of the Illinois State Board of Health, we commend to their perusal the results of the careful and well devised researches of Dr. J. P. Garrish, of Portland, Maine, presented at the last annual meeting of the American Academy of Medicine, and published a few months since in several of the medical journals. If we are to have further legislation relating to strictly medical matters, let the profession exert its influence in favor of only such statutory provisions as will prove of substantial benefit in improving the educational status of the profession, and thereby proportionately increasing its usefulness and honor.

EYE-TROUBLES AND NERVOUS DISEASE.

More and more during the past few years, has the attention of the profession been called to the frequency with which functional or reflex disturbances are caused by disturbances of vision. The latest issued contribution to this subject (of any considerable length or pretense) is a work by DR. GEORGE T. STEVENS, of New York, to which was awarded the prize of the Royal Academy of Belgium in 1883, and that is now presented in the English language. The work is based on a large number of cases of nervous disease, both in private and hospital practice. The conclusion that he arrived at in his investigations is thus formulated: Difficulties attending the functions of accommodating and of adjusting the eyes in the act of vision, or irritations arising from the nerves involved in these processes, are among the most prolific sources of nervous disturbances, and more frequently than other conditions constitute a neuropathic tendency.

It will be observed that the proposition is not exclusive, but that it recognizes any and all causes of nervous irritation, and that while the influences indicated by it are held to be pre-eminent, they are not held as being exclusive permanent causes. "Let it be remembered," says the author, "that it has been universally conceded that the nature of the neuropathic tendency is unknown. If one pre-eminently important tendency is here demonstrated, it is not to be rejected because it may not include the whole."

Keeping this in mind, we may now speak of some of the nervous troubles that Dr. Stevens has found to originate from ocular disturbances.

In regard to these troubles, probably more has been written of *headache* from eye trouble than of any or all other disorders arising from ocular disturbance. Dr. Stevens cites cases of chronic headache relieved by removal of the irritation caused by: 1. Hypermetropia, with insufficiency of the external recti; 2. Astigmatism, with enfeebled adducting force; 3. Enfeebled energy of the muscles of accommodation; 4. Insufficiency of the external recti muscles uncomplicated with any very important refractive error. From this it appears that these conditions may act as disposing causes of headache, and that the removal of the irritation caused by such conditions is sufficient to give permanent relief. The percentage of chronic headaches permanently relieved was 83.6, improved 12.4, and not cured 4. No cases of simple asthenopia or of temporary headache are included in this analysis. In regard to migraine, it is significant that in a few cases in which the fundus of the eye has been examined ophthalmoscopically during the period of visual disturbance, the retina has been found pale and brilliant, the optic disc unusually white, and the main arteries irregularly contracted in their course. In these cases the field of vision is more or less contracted. Such cases, when dependent upon visual troubles, are

more difficult to relieve, according to Dr. Stevens, than ordinary chronic headaches, as there is often a complicated state of refractive trouble and muscular insufficiency, demanding greater care and judgment in correcting the ocular conditions.

As concerns the relation of neuralgia to ocular troubles, the author gives an analysis of 100 cases of neuralgia seen by him in fifteen months: 12 were not subject to important ocular defects, or were seen only once; 3 would not follow the advice given; of the remainder 83.53 per cent. were permanently relieved, 11.76 per cent. materially improved, and 4.71 per cent. not relieved by correction of the eye troubles. On comparing the family history and physical conditions in many hundreds of cases of neuroses, the author concludes that hereditary neuroses are not transmitted from parent to child directly; that they are the manifestations of transmitted physical pecularities that render difficult the performance of certain important functions; and that of the hereditary physical defects that thus tend to develop neuroses, anomalous conditions of the eyes are among the most frequent and important; and these conclusions are well maintained in regard to neuralgia. The author also gives records of several cases of "spinal irritation" and of neurasthenia cured by correction of ocular troubles.

Pye-Smith found that of 136 choreic patients at Guy's Hospital, 106 were between the ages of 6 and 15, and 62 of these were between the ages of 6 and 10; so that almost half were at the age when children enter school, and almost all were children of school age. Dr. Stevens says that his researches show that the majority of cases of chorea occur among children that are hypermetropic. Of 118 cases examined in private practice, there was simple hypermetropia in 78, hypermetropic astigmatism in 13, mixed astigmatism in 5, unequal myopia in 6, and myopic astigmatism in 2; and associated with these conditions in a considerable number of cases, there was more or less muscular disability. From a careful study of the cases that he has examined, and of the results of treatment of ocular troubles found, the author asserts the direct relationship between these ocular troubles and chorea (more especially chronic chorea, since no conclusions of value could be drawn from a small number of cases of acute chorea, that has a tendency to recover spontaneously in a few weeks) And after reading the records of the five cases given by the author, one is not much inclined to quarrel with the conclusion that chorea is emphatically a nervous trouble depending upon ocular conditions.

In regard to the relation of eye trouble to epilepsy the author considers that form of epilepsy only that does not depend upon visible lesions. Examinations of ocular conditions were made in 140 cases of epilepsy, 85 of which were in private practice. The general result was the finding of refractive anomalies in a considerably larger ratio of cases than was found by Cohn in his examinations of the eyes of school-children; in 100 consecutive cases there was hypermetropia (including hypermetrophic astigmatism), in 59 cases, myopia (including myopic astigmatism in 23 cases, and emmetropia, or refractive errors less than 1 D. in 18 cases). In four of the cases in which notable errors of refraction were not observed, atrophy of one of the eyes existed. "In the greatest number of cases examined in private practice very marked insufficiency of the motor muscles of the eyes was found, and it may be here observed that, so far as ocular irritations are concerned in the origin of a tendency to epilepsy, muscular irregularities are doubtless much more efficient than refractive anomalies. The proportion of refractive errors stated above would not of itself prove a relation between the state of the eyes and the epileptic condition, although the proportion is notably in excess of that found by examination of those in health. This circumstance, however, taken with that of a state of insufficiency of the ocular muscles existing very generally, renders it probable that the ocular defects may be in relation to the epileptic tendency." This probability becomes an exceedingly strong one when we consider the results of treatment based upon the supposition that epilepsy may be in direct relation to the ocular condition. Of the cases seen in private practice 34 only were treated and observed for any length of time beyond one or two visits; 5 withdrew from treatment before obtaining any relief from important ocular defects, and the remaining 29 were treated only by the removal of the ocular defects; 14 of these may be considered well; 2, still under observation when the memoir was written, are believed to be permanently relieved; 3 others, still under treatment, have received such marked relief that it is believed that an entire discontinuance of the malady may be expected; 7 have received temporary relief; 2 showed no improvement; and 1 that had shown some improvement, died of accident four months after the first visit. The question of the influence of drugs is thrown out in these cases, since some patients had taken none for some time before coming under treatment, and in cases in which drugs were taken up to the time that treatment was begun they were at once discontinued. The 12 cases re-

corded by Dr. Stevens are exceedingly interesting.

It is quite conceivable that disturbances of vision must react upon the mental as well as upon the sensory system. Dr. Stevens gives details of four cases of mental disorders relieved or cured by correction of visual anomalies. Two of these cases are illustrated by photographs, taken before and after correction of the eye trouble, that show more than could possibly be told.

In several hundred of his cases Dr. Stevens has made a careful study of the heredity of the patients. The list contains consecutive cases of nervous diseases in which the family record was ascertained, and in which refractive errors of 1 D. or more, excluding cases of simple myopia, were found, muscular insufficiencies being excluded. All the cases were those of adults. Most of the deaths in the families of these cases have been from very chronic diseases or from sudden strokes like apoplexy or diseases of the heart. In 207 deaths 89 were from phthisis (more than 43 per cent.); about 7 per cent. died from Bright's disease; and 9 per cent. died from paralysis and apoplexy—the usual death-rate from these diseases in New York being a little over 24 per cent., about 4 per cent., and 5 per cent. respectively. From a careful study of these histories it would seem that in families with a high degree of refractive errors there is a great frequency of nervous disorders and organic lesions, of consumption and Bright's disease, and that the higher the grade of refractive anomalies, the greater is the proportion of phthisis and Bright's disease.

AMERICAN RHINOLOGICAL ASSOCIATION.—At the last annual meeting of this Association, September, 1887, the following officers were elected for the current year: President, Dr. C. H. von Klein, Dayton, Ohio; Vice-Presidents, Drs. R. S. Knode, Fort Wayne, Indiana, and A. G. Hobbs, Atlanta, Georgia; Secretary and Treasurer, Dr. John North, Keokuk, Iowa; Librarian, Dr. N. R. Gordon, Springfield, Illinois. The sixth annual meeting will be held in Cincinnati, Ohio, September, 1888.

THE CENTRAL WISCONSIN MEDICAL SOCIETY will hold its third quartely meeting in the Capitol, at Madison, December 27th, 1887. A good program of work is offered. President, L. V. Lewis; Secretary, C. S. Sheldon, of Madison.

COMPLIMENTARY.—The well written and valuable work of Dr. H. Gradle, of Chicago, on "Bacteriology," has attracted attention in Japan, and been translated into the language of that country.

SOCIETY PROCEEDINGS.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, November 3, 1887.

THE PRESIDENT, T. M. DRYSDALE, M.D., IN THE CHAIR.

DR. ROBT. H. HAMILL reported a case of

PUERPERAL MALARIAL FEVER, SIMULATING SEPSIS.

In the *Amer. Jour. Obst.*, April, 1880, Dr. Fordyce Barker called attention to a peculiar febrile derangement, known as "puerperal malarial fever." It is of paramount importance to the obstetrician to know whether or not he has to deal with a disease that is the result of carelessness, or one of miasmatic origin. The following case, which I wish to add to the list, seemed to be caused by a miasmatic influence, rather than one of septic origin. I shall only give the most prominent points in the case, which led me to believe that it was of malarial rather than septicæmic origin. The patient was delivered of a premature still-born child, labor being complicated by placenta prævia and induced. It was reported at the September meeting of the Society. Twelve hours after labor had ended the temperature had risen to 101.5° F., but the patient was otherwise in good condition. The following day her temperature had fallen one degree. In the evening of the third day she had a severe chill lasting fully twenty minutes, and followed by fever and profuse sweating. From the fact of labor being complicated as before stated and version having been performed, I very much feared I had a case of sepsis to deal with; but after learning that during her pregnancy she suffered considerably, at times, from an ill-defined feeling of lassitude, and "an aching of her whole body," and further, that the street in which she had lived had been in miserable condition, stagnant pools of water being allowed to remain, thus creating a favorable nidus for the germs of malaria, I felt much relieved. In addition to this history, and much to my delight, the woman had another severe chill followed by the fever and sweating stages. These chills continued occurring daily until the ninth day, decreasing in severity each day. At times there was slight delirium. Almost from the first the patient was taciturn and later on became very weak, with a feeble rapid pulse. There was no pelvic pain or tenderness, and very little if any tympany. No odor to the lochia, which was normal in quantity. Vagina and appendages perfectly healthy. The blood was not examined because quinine had been given from the first. Very little change took place in her condition until the seventeenth day, when there was an abatement in all her symptoms, and convalescence was very rapid. The treatment

consisted chiefly in the administration of large doses of quinine and stimulants. The amount of quinine taken without producing any symptoms of cinchonism was greater than I have ever known. In one dose she got 30 grains, followed in two hours by 30 grains more. Quinine seemed to have no effect until used in the form of Warburg's tincture, notwithstanding it had been given in one large and in smaller oft-repeated doses. After the patient began to convalesce she did not have an unfavorable symptom, and is now fully recovered.

Dr. J. L. Ludlow spoke of the history of Warburg's tincture and of the difficulty of obtaining a preparation in accordance with the original recipe. He had succeeded in having an exact preparation made by a druggist of this city, and it had yielded him results far better than he could obtain with quinine or any other combination of it. He had used it at Eddystone with great success.

Dr. Drysdale has had wonderful effects from Warburg's tincture.

Dr. B. C. Hirst on

CATHETERIZATION OF THE URETERS.

After seeing the ureteral catheters that were shown by Dr. Kelly at the last meeting of the Society, and hearing his commendation of them, a case came under my observation in the Maternity Hospital that seemed eminently suitable for the application of these instruments as an aid in arriving at a correct diagnosis. The clinical history of the case is briefly as follows: A young prima gravida was found to have both pus and albumin in her urine, which condition persisted after delivery. The case was treated as one of cystitis, by vesical injections, but without much benefit. Some three weeks after the delivery, the quantity of urine excreted in twenty-four hours became decidedly lessened, while the amount of pus became both actually and relatively much decreased. At the same time the temperature rose to 104° and there was considerable pain over the region of the right kidney. This history would, of course, have led one to suspect "lithogenic pyelitis" resulting in the formation of a stone in the pelvis of the right kidney, which had suddenly plugged up the outlet from the kidney and had thus diminished the quantity of urine and decreased the amount of pus. An answer to the following questions was desirable: 1. Was the *right kidney* chiefly affected, or was the pain on the right side referable to a morbid condition of the left kidney? a possibility to which attention has been called, especially by Knowsley Thornton. 2. Were both kidneys diseased or was one healthy? 3. Did the pus really come from the kidneys or was it confined to the bladder? I was able to solve these problems by the use of the ureteral catheters which Dr. Kelly was kind enough to lend me. The ureters were made out without difficulty by abdominal palpation, and the catheters, first the metal and then the flexible, were introduced with ease, the flexible catheter being pushed up the right ureter a distance of 8½ inches. The specimens of urine collected in separate test tubes from each kidney showed, on inspection, a much greater turbidity in that from the right than in that from the left kidney. A microscopic examination revealed pus in both specimens, but in that from the right side in much larger amounts than in the specimen from the left kidney. In the urine from the left side a well-defined granular cast was found. I can say, then, 1, that the pus came from the kidneys; 2, that both kidneys are diseased, but the right is most markedly affected; 3, that there is not only pyelitis, but pyelo-nephritis in the left kidney; arriving thus at a precision in diagnosis that would be impossible without the aid of the ureteral catheter.

Dr. Hamill had since the last meeting palpated the ureters without difficulty, and had passed the catheter into them. The ureters were about the size of the little finger.

Dr. Kelly has, since the last meeting, operated successfully for the relief of a ureteritis in on unmarried young woman; the pelvic organs were healthy. The inflammation was confined to the orifices of the ureters. He experienced no difficulty in passing the catheters.

Dr. Philip M. Schiedt read a paper on the

DELIVERY OF THE AFTER-COMING HEAD.

"Time is the great factor in these cases. It is generally considered that if the head is not delivered in from five to eight minutes after the delivery of the body, the child will be still-born." Dr. Schiedt took up the history of the literature of the subject from the time of Celsus, and the method of "expression" by suprapubic pressure, down through the various manual methods. He deprecated the neglect of this subject by American and English authors, and entered very fully into a criticism of the methods advocated by German and French writers. His own deduction from an analysis and comparison of these authorities, who widely differ in their teachings, and from his own experience, is that the forceps constitute "the best, quickest and safest treatment."

Dr. Wm. Goodell had been struck by what seemed to him a great although common mistake, trying to secure flexion of the head in breech deliveries. In a flattened pelvis it is better for the head to descend in a transverse position, so as to enable its shortest diameter, the bi-temporal, to correspond to the short diameter of the pelvis, the antero-posterior. In a justo-minor pelvis the operator would be justified in trying to secure flexion. The fingers in the fœtal mouth are useless for good, but there is danger of breaking the jaw. The forceps is the only proper aid in the expulsion of the after-coming head. One objection often made to their use is the loss of time involved in their application, but this does not hold. The accoucheur should be acquainted with the form of the patient's pelvis. The body of the child should be held away so that the forceps can be applied to the sides of the head, the handles being on the anterior aspect of the child's body. Another point to bear in mind in a flattened pelvis, is the problem of bringing the head safely around the promontory of the sacrum. The hand should grasp the neck of the child, the thumb being on one side and the fingers on the other, and traction should be

made so as to ease the head around the promontory before securing rotation of the face into the hollow of the sacrum. After this it would be easy to make the chin engage or to apply the forceps.

DR. CLEEMANN has never met with any difficulty in delivering the face in head last labors.

DR. M. PRICE makes it a rule to have his forceps ready in breech deliveries. He has the body held out of the way and has had no trouble in putting in the forceps. He has had but one death in a breech presentation. On that occasion he had not his forceps with him.

DR. W. S. STEWART prefers breech to head presentations. He has not had trouble in applying the forceps.

DR. LONGAKER laid great stress upon the necessity of avoiding mismanagement in the early stages of a breech delivery; there should be no immediate haste. If the legs are seized and drawn upon the body is quickly delivered without securing dilatation of the os uteri and the arms become extended beside the head in the grasp of the lower segment of the uterus. Forcible extraction at this stage is a frequent cause of extensive laceration and has caused death of the mother. He agrees with Dr. Goodell as to the treatment of these cases in flattened pelves: the adaptation of the bitemporal diameter to the direct conjugate should be secured and the obliquity of Nagele should be maintained until the anterior base has well descended into the cavity of the pelvis. The late Dr. H. H. Smith laid great stress on the propriety of using the forceps to assist in the delivery of the after coming head. In applying the forceps, flex the body of the child towards the dorsum, and the handles of the forceps should be on the anterior aspect. Pressure over the head of the child, while the body is swept toward the belly of the mother is not a good or safe method; the amount of traction required to extract the head is too great for the neck to bear. The forceps should be in readiness to apply as soon as the body has escaped from the vulva.

DR. EDWARD WILSON thought it a common mistake to hurry the delivery of the body of the child. When dilatation of the os is complete the child will descend with the arms folded on the body. He is as strong an advocate of the application of the forceps to the after-coming head as any man can possibly be.

DR. J. C. MORRIS could understand the defense for making traction on the lower jaw by putting one finger in the child's mouth. When the buttocks are emerging, very slight traction will cause extension of the head, but if a hand is passed along the anterior aspect of the child's body and one finger introduced into its mouth the extension of the head might be prevented. He did not think this defense a good one as traction on the lower jaw could not be effective. He would quite as lieve have a breech as a vertex presentation. The forceps should always be at hand and there is no difficulty in putting them on. There is need of quick action. Traction on the neck of the child may be productive of great injury. He has known it to result in death, and in loss of power in the lower extremities.

DR. SCHIEDT wished to emphasize the necessity for the use of the forceps as the subject has been so slighted in modern medical literature.

DR. LONGAKER exhibited the *Ether Inhaler* and can combined, devised by Dr. Young, of Bridgeport, Conn. He had found it very useful in using chloroform in labor.

DR. BALDY took exception to Dr. Longaker's statements that fresh air passed through the instrument at every inhalation and that the patient received a saturated ether vapor, as he considered them conflicting. He preferred the folded, cone-shaped towel.

EXPLORATORY INCISION.

DR. MONTGOMERY reported the following case seen with Dr. E. R. Stone.

Mary G., æt. 28, married, but not living with her husband. She had noticed for some two months a swelling of the abdomen; this became so marked that Dr. Stone had twice during this time emptied the abdomen by means of a trocar. The fluid was plainly ascitic. When Dr. M. was called the abdomen was again quite well distended; the resonance was that of ascites. Vaginal examination disclosed a mass, quite resistant, situated upon either side of the uterus. The rapidly recurring ascites, with the solid mass in the pelvis, aroused the suspicion of a malignant condition. An exploratory incision was advised, and was made at the Med. Chir. Hospital, October 1, 1887. Drs. Drysdale, Warder and Stewart assisting. Upon opening the abdomen, two gallons of ascitic fluid were removed and the tumor presented itself. It was covered with papillary growths which extended also over the posterior surface of the uterus, into Douglas' pouch and over the whole left side so that removal was out of the question. The abdomen was thoroughly sponged out, and the wound closed and bandaged. The following day frequently repeated doses of salines were given to produce watery evacuation and drain the peritoneum. She was allowed but little liquid. There was slight elevation of temperature, reaching 100° on the second day. The wound had healed completely at the end of the week. She left the hospital in two weeks, much improved in appearance and without any appearance of return of the ascites. Since her return home there has been a reaccumulation. Microscopical examination showed the growth to be an ovarian papilloma.

DR. MONTGOMERY exhibited an

INTRA-UTERINE FIBROID

as large as an orange. It had been removed from a single lady æt. 45. She had been suffering from hæmorrhage for over three years but had never been subjected to an examination. A fibroid tumor was found projecting into the uterine cavity from the posterior wall. She was admitted to his private hospital on June 22, and a large luminous tent introduced to dilate the canal. The following day, assisted by Drs. W. H. and C. B. Warder and West, he operated. The patient was placed in the lithotomy position, the vagina held open by retractors, the uterus secured by a ligature through the anterior lip. The tumor was adherent over the whole of the posterior surface. It was enucleated as far as the finger would reach and finding that the mass was quite large the cervix was

split to the lateral fornix of the vagina on either side and the enucleation completed by the serrated curette. After separation of the tumor great difficulty was experienced in its removal. The tenaculum and volsella were repeatedly pulled out before the uterus was sufficiently dilated to permit the delivery of the mass. A drainage tube was inserted and the cervix closed by three sutures upon either side. The tube was removed on the third day. There was no rise in temperature until the seventh day when it ran up to 103°, and some cellulitis was found upon the left side. This soon subsided under treatment but the patient recovered very slowly. She is now well.

Dr. Montgomery presented a specimen of

HEMATO-SALPINX.

Mrs. K., æt. 26 years, married twice, two children by her first husband, missed her menses in May, but had a natural flow June 9. Towards the end of June she felt badly, and so continued until July 11, when she was suddenly taken with violent pain in the right side. A homœopathic physician was called; the severe pain soon abated. Later he discovered a lump in the inguinal region; this he considered a forming abscess. He attended her for four weeks, during which time she was kept in bed by pain in the abdomen and a bearing down or sense of weight, greatly aggravated by the sitting or standing positions. Becoming discouraged, she called in Dr. E. Santee, who asked me to see her in consultation. She was a very slight, girlish woman, looking not over sixteen years of age, pale, anæmic, very nervous and anxious. Upon the left side of the abdomen could be felt a circular mass, three inches long by one a half in diameter, freely movable, not especially tender. Per vaginam was felt a globular mass protruding the posterior wall of the vagina and filling up Douglas' pouch, and apparently continuous with the uterus. It was at first supposed that it was a retroverted pregnant uterus. More careful examination under ether disclosed fluctuation, and the uterus occupying an anterior position, but slightly enlarged. An operation for removal mas advised, though a diagnosis was not certainly determined. She entered my private hospital August 24, when, assisted by Drs. Warder, Santee and West, the abdomen was opened. In raising the tumor on the left side it was slightly ruptured, dark grumous blood escaping. Its pedicle was closely connected with the uterus, and examination showed it to be a dilated Fallopian tube. Passing the hand behind the uterus, the pelvis was found filled with an encysted mass which proved to be clotted blood. This was scooped out by the handfull, the abdomen thoroughly washed out, the left dilated Fallopian tube removed, and the wound closed. The temperature before the operation was 100.4°; in the after part of the same day it rose to 100.6°, which was the maximum reached during the convalescence. The wound was healed when the dressing was changed at the end of one week. The sac, when opened, contained a firm clot of blood, and from its appearance and the history, he believed that an extra-uterine or tubal pregnancy had ruptured, causing the hematocele.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, November 9, 1887.

The President, J. Solis-Cohen, M.D., in the Chair.

Dr. E. T. Bruen reported from his service in the Philadelphia Hospital, cases of

LAPAROTOMY FOR TUBERCULAR PERITONITIS; PULMONARY CAVITY TREATED BY INCISION; ABSCESS OF THE LIVER.

Case 1. Abdominal section for chronic tubercular peritonitis.—A summary of the prominent features of this case shows the following: John B., aged thirty-four. Admitted to the Philadelphia Hospital May 8, 1887. His first departure from health began June 27, 1880, marked by abdominal pain; swelling of the feet followed in September of the same year. His previous history showed a marked constitutional tendency to abscesses. He had suffered from a great number of these, including an orchitis, which he considered non-venereal. When examined on admission, dry, pleural friction râles were abundantly distributed over the lower zone of each side of the chest, indicating a dry pleurisy, and there were also the physical signs of diffused thickening of the lower portion of the right lung. The sputa contained numerous bacilli of tuberculosis. The abdomen was very prominent and much distended with fluid in the central portion, but in the hypochondriac regions of each side the course of the colon was defined as a prominent resonant swelling. The liquid in the central portions of the abdominal cavity was apparently confined in a species of sac owing to adhesions formed between the peritoneum and the colon, since changing the position of the patient did not change the distribution of the fluid. The liver and spleen were also enlarged, and there was marked dulness in the flanks and lumbar regions posteriorly. The abdominal distension rapidly increased, uninfluenced by any treatment which was instituted. The diagnosis of chronic peritonitis was based partly on the physical signs developed during the examination of the abdomen, viz., its peculiar contour, and the encysted collection of fluid. There was no heart disease, and though there was a small ring of albumen in the urine, by Heller's test, there was no evidence of serious renal lesion. The associated pulmonary process left little doubt that the nature of the inflammation was tubercular. Moreover, there was no history of injury, nor could any evidence be elicited of chronic inflammatory process in the abdominal viscera which might have had an etiological relation with the peritonitis. These considerations were especially valuable because the patient's general condition was excellent, color good, and appetite unimpaired. On June 18 a gallon of clear serum, with some few shreds of lymph, was withdrawn. Unfortunately, paracentesis was necessitated about every three weeks thereafter on account of the rapid accumulation of the fluid, and the dyspnœa occasioned by it. The pulmonary process being latent, and the general condition of the patient excellent, laparoto-

my was suggested, and it was thought that possibly by irrigation of the abdominal cavity by means of antiseptic solutions the character of the inflammatory process could be modified and the reaccumulation of fluid prevented. On June 28 the operation was accordingly performed by Dr. Deaver, assisted by Dr. Montgomery. On opening the peritoneal cavity a large amount of serum escaped, but no pus was found.

The peritoneal surface was much injected and dark red in color, much roughened, and covered with flakes of plastic lymph. After drainage, iodoform was dusted freely over the peritoneal surfaces, and the wound closed. The patient's subsequent history was unsatisfactory. Vomiting was a continuous symptom, and death occurred July 6, nine days after the operation.

At the autopsy it was found that an acute attack of peritonitis had followed the operation. Extensive adhesions existed along the course of the colon; the diaphragm on the right side was welded to the liver, and on the upper surface extensive adhesions to the pulmonary pleura had been formed. The right lower lobe of the lung was infiltrated with nodules of miliary tubercle; the left lung was normal.

This case is reported because the number of cases of chronic peritonitis on record is limited in which abdominal section has been performed. While tubercular peritonitis is a most serious disease, yet the process may become latent, as is so familiar in tubercular pleurisies in the course of phthisis. Just as the gravity of tubercular pleurisy depends upon the pulmonary lesion, so the gravity of tubercular peritonitis depends upon the extent of the frequent antecedent lesions present in the bowels and to the impairment of the functional activity of the digestive tract by the adhesions.

The indications for laparotomy would seem, to the writer, to be the same as those which guide us in the inflammations of neighboring serous membranes, the pleura and the pericardium. Incision should be avoided in tubercular peritonitis unless the inflammation is purulent. Not only so, but when the tubercular process is present, even paracentesis should be practiced only in those cases in which dyspnœa, from over distension of the serous sacs with fluid, threatens life. The danger of operative interference in tubercular inflammation of serous sacs is, that the inflammatory process nearly always becomes purulent.

The etiology of the tubercular peritonitis in this case would seem to have been absorption of bacilli from the intestinal canal, possibly from swallowed sputa, particularly as no ulceration of the bowel could be found. The lesions in the lung were so inconsiderable, when compared with those of the peritoneal cavity, that the possible channel of abdominal infection was unlikely, viz., the inoculation of the pulmonary lymphatics with those of the diaphragm and abdomen. On the other hand, traced from the peritoneal cavity upward, the extensive double pleural process, and the absence of disease of the apex of the right lung, showed that the inflammation probably developed from the peritoneal cavity upward.

Case 2. Drainage of a pulmonary cavity.—A man, aged twenty-seven years, was found on admission to the hospital to have all the physical signs of a large cavity in the lower lobe of the left lung. The physical signs were so unequivocal that the cavity was thought to be very superficial, and to occupy a large portion of the lower left pulmonary lobe. The upper lobe was evidently also implicated; the right lung was nearly normal, although at the apex a few moist, crackling râles could be detected.

The history of the case was indefinite, but it was gathered that the disease in the lung came on suddenly about six weeks previously, with pneumonic symptoms. At date, October 20, the patient suffered very much from cough, expectorated freely pus and nummular sputa, which contained tubercle bacilli. The temperature indicated absorption of septic matter; ranging from 100° to 102°. The location of the vomica prevented the antiseptic inhalations from really reaching the part, and the patient could not readily empty the cavity by coughing. After consultation with two of my colleagues, Drs. Curtin and Osler, it was determined to open the cavity and attempt to secure local drainage. The physical signs of superficial cavity being most intense at the angle of the left scapula, it was decided to operate at this point. Resection of a rib was requisite to obtain working room, as the ribs are close together at this point. On October 27 the patient was placed under ether, and Dr. Janney, assisted by Dr. Porter, removed about one and a half inches of the ninth rib just within a line drawn from the angle of the scapula. The pleural surfaces were found to be adherent, and the pleural membrane was slightly thickened. It was decided to attempt to enter the cavity with the large needle of an aspirator, and the same was accordingly introduced. Although the physical signs had been so pronounced, yet the needle was introduced two inches into the lungs in several directions without entering the cavity. The punctures caused no coughing, disturbance of respiration, or, in fact, any inconvenience. When the needle was disconnected from the aspirator some little blood escaped, and sufficient air to extinguish a match. Finally, a large-sized trocar was introduced in two directions, and it was thought, from the manner in which the front of the instrument moved, that the cavity had been penetrated. A small drainage tube was introduced, and the wound dressed after the antiseptic method. On the following day the dressings were removed, and it was found that at least an ounce of pus had escaped from the sinus. It was decided to enlarge the sinus in which the drainage tube had been placed by dilating it daily with rubber catheters. The second day after the operation, while this dilatation was being practiced, suddenly several ounces of pus gushed through the sinus and escaped externally, and thereafter the sucking was heard, so familiar after an empyema has been incised. It was manifest that the cavity had, at least, been freely opened, for now injection of fluids into the vomica could be coughed up through the bronchi. A blunt probe could be passed seven inches directly into the chest,

and the impulses of the heart could be detected along the probe.

There were several points of interest in connection with the details of the operation. The first of these was the fact that the cavity was situated at least two inches from the pulmonary pleura. Secondly, the first two days the cavity was either not entered, or only a minute opening was created, and yet no damage to the lung occurred, and the temperature fell a degree and a half.

The propriety of entering similar cavities with the thermo-cautery has been suggested, but when the cavity is situated deeply may not the mode adopted in this case be more simple? Certainly there were no evil effects in the present case. I would suggest, therefore, the puncture of cavities in the lung by trocar, and then a small drainage tube can be introduced through the canula; the drainage tube can be exchanged for a large one by dilating the sinus. The resection of one or more ribs seems to me an important feature in the operation for the opening and drainage of pulmonary cavities, because retraction of the costal wall is facilitated by this measure. The general condition of the patient has steadily improved since the operation, and at date his temperature is normal, with greatly reduced cough and betterment of the general strength. On November 1, he passed under the care of my colleague, Dr. J. C. Wilson.

It is familiar ground to consider the propriety of this operative procedure. I feel sure, however, that the most successful treatment of chronic pulmonary inflammations includes rigid antisepsis as one of its cardinal features. When cavities have formed their local treatment seems very desirable whenever the strength of the patient at all justifies any hope of success from treatment. In regard to the presence of pleural adhesions, these may be counted on whenever the cavity has attained large enough dimensions to allow operative interference to be considered.

Case 3. Abscess of the liver.—John R., aged 63 years, admitted to hospital October 10, with temperature 102°, and marked symptoms of the typhoid state. The bowels were involuntarily moved several times in the twenty-four hours. The only other symptom of special importance was severe epigastric pain. The patient had been ill for two or three weeks previously, but could give no account of the symptoms. On October 16, the liver was very noticeably enlarged, at least an inch in all its boundaries. Pain in the epigastrium was a prominent symptom. The left lobe of the liver was enlarged; splenic dulness normal; lungs normal. The passages from the bowels occurred four or five times daily, and were yellow, watery, and offensive.

Temperature: October 16, 10 A.M., 101°; 6 P.M., 102°.
17th, 7 A.M., 100⅖°; 11 AM., 103⅗°.
17th, 2 P.M., 98⅕°; 9 P.M., 104°.
18th, 7 A.M., 100⅗°; 6 P.M., 102°.
19th, 7 A.M., 101⅗°; 7 P.M., 103°.
20th, 7 A.M., 102°; 7 P.M., 101⅘°.
21st, 7 A.M., 100⅕°; 7 P.M., 100⅕°.
22d, 7 A.M., 100°; 7 P.M., 99⅗°.
23d, 7 A.M., 100°; 3 P.M., 98°.

On the 17th 10 grains of antifebrin were given at 11 o'clock; at 2 P.M., the temp. was 98°. Temp. at 9 P.M., 104°. Antefibrin again given, and at 10 o'clock tem. 101⅗°. He had a chill at 11 A.M., on the 16th, and at 10 A.M., on the 17th; neither was followed by sweating. The diagnosis of enteric fever was considered and set aside as improbable, on account of the age of the patient, the absence of enlargement of the spleen corresponding to the enlargement of the liver. The disorder of the bowels, the pain in the epigastrium, suggested hepatic disease.

October 21. The left lobe of the liver was very positively enlarged and tender on pressure. The right hepatic lobe was slightly enlarged. The right parotid gland was also swollen. The evidence of enlargement of the left hepatic lobe with the foregoing symptoms suggested the diagnosis of suppuration. Aspiration was determined upon, and the needle introduced obliquely through the abdominal wall. The needle seemed to slip up over the dome of the liver. It was then introduced more perpendicularly, using some pressure; penetrating the abscess, and several ounces of pus were withdrawn. On the 22d an exploratory incision was made through the abdominal wall over the point of puncture, and the liver incised. Unfortunately, the spot selected for this operation was almost the only square inch of liver which could have been cut without entering the abscess cavity, as will be seen by examining the post-mortem specimen. The abscess cavity lay within half an inch of the point of operation. The liver was stitched to the abdominal wall, and further explorations would have been made, but death occurred on the following day.

Post mortem examination. The body was that of a medium sized man very well nourished. On opening the abdomen, the left lobe of the liver was found adherent to the abdominal wall. This lobe of the liver was enlarged, had a grayish fibroid appearance on the surface, and was closely connected by adhesions with the posterior wall of the stomach. On separating the stomach from the liver the abscess was ruptured, and a large quantity of pus escaped. There was also a large abscess cavity in the upper and posterior part of the right lobe. The tissue shows evidence of recent breaking down, and there is much reddish infiltrated liver tissue in the vicinity. There was also a second abscess about the size of an orange, in the right lobe near the suspensory ligament.

In the large intestine in the region of the anus, extending two or three inches upward, was a large sloughing mass, with a thick, deeply infiltrated base. The edges of this ulcer are greatly thickened. Extending above this into the sigmoid flexure, were five large ulcers, and a second large sloughing mass. No ulcers were seen on the ascending and transverse colons.

The portal vein was free from clots. The kidneys were sclerotic, and their cortical portion much diminished. Spleen was soft and of normal size. Heart, the left ventricle was hypertrophied, aortic

arch dilated and atheromatous. Lungs, œdematous at bases and emphysematous at edges. Right parotid gland was enlarged; shows on incision into substance, numerous foci of suppuration. The hepatic abscesses are, therefore, undoubtedly embolic, and the lesions in the large intestine were the source of the embolism.

It is noteworthy that no hæmorrhage occurred when the liver was incised. It also appears to me that the best method of locating a deep abscess after incision of the abdominal wall, would be by passing a trocar into the abscess cavity, and then dilating the sinus. This method would obviate the danger of hæmorrhage from the hepatic structure when it may be considered inadvisable to use the thermocautery. The recital of this case affords the writer the opportunity to say that he is satisfied that the liver can be safely explored with a moderate sized aspirator needle. He has frequently practiced this method in doubtful cases without ever having noticed unpleasant consequences. Finally, without entering upon a detailed study of the general diagnostic features of hepatic abscess, it will be observed that the temperature chart of this case shows a wide diurnal variation in the temperature, yet the subnormal temperatures frequently noticed in hepatic abscess were not present, and as antifebrin was used in the treatment, the subsidence of the temperature was probably due to the use of this drug. The temperature, therefore, was much more than that of a continued fever, than is commonly noticed in these cases.

DR. W. OSLER said: I think that in these cases of abscess of the liver we should, if possible, arrive at an accurate opinion with reference to the etiology of the abscess. I saw this case once or twice with Dr. Bruen, and I think that if we had made a careful examination of the rectum, the liver would not have been explored, as abscesses resulting from dysenteric processes in the large intestine are almost invariably multiple. To explore the liver thoroughly in a case of multiple abscess is a hopeless surgical procedure.

With reference to the case of tubercular peritonitis, I may say that these cases frequently come before surgeons and gynecologists for diagnosis. In some cases the effusion simulates closely a tumor. I do not believe that surgical interference will ever come into vogue in the treatment of this condition, as the general condition of the patient is, as a rule, such as not to warrant surgical interference. In the case reported to night, the rapid reaccumulation of the fluid brought in an element which rendered it probable that incision would be of service.

DR. W. H. PARISH said: I have had no experience in exploring the liver for pus, but I should hesitate a long while before accepting the statement that it is safe to explore an abscess in any organ where it was necessary to pass the needle through the peritoneal cavity. If adhesions exist between the two peritoneal surfaces, the exploration may be safe. The experience of all abdominal surgeons is that aspiration of a tumor within the abdomen, more particularly of tumors containing pus or irritating fluids, is attended with considerable risk. I think that aspiration of an abscess of the liver, where adhesions had not been formed, would be attended with more risk than the aspiration of an ovarian tumor, and the risk attending the latter is not small. The usual septic character of the pus of an abscess in the liver, must render aspiration peculiarly hazardous. The thrusting of an aseptic needle into healthy liver tissue is, however, doubtless quite safe.

DR. J. B. ROBERTS said: I scarcely think that tapping of the liver is such a dangerous procedure as would be indicated by the remarks of the last speaker. If I had a case of suspected abscess of the liver, I should introduce an aspirating needle in various directions with a great deal of certainty that I should do no harm. There would certainly be no harm if an aseptic needle were used and there was no pus. The escape of a little aseptic blood into the abdominal cavity is not a serious matter. It would be a more serious matter to leave an abscess of any ordinary size undetected.

Abdominal section in cases of tubercular peritonitis seems hardly in accordance with our ordinary ideas. In the paper to which Dr. Bruen has referred, I see that the author has claimed that good results were obtained. I can hardly see what good could be expected from it.

DR. W. G. PORTER said: Some six months ago a patient was admitted to the Presbyterian Hospital. There was a considerable collection of fluid in the abdomen, and on palpation a growth could be felt, the exact nature of which we could not determine. It was decided to make an exploratory incision. On opening the abdomen an extensive tubercular peritonitis was found. Since the operation, the woman has remained in about the same condition as previous to it.

DR. BRUEN said: With reference to exploration of the liver, I gave expression to my opinion because I think it desirable to have the experience of those who have punctured the liver. Not long ago I saw a case of suspected abscess of the liver, and on three separate occasions I punctured the liver in different directions before I succeeded in obtaining pus. Although the abscess was a large one, no harm resulted from the punctures. In one case I punctured the liver as often as six times, but failed to find pus. This patient recovered.

I would reiterate that with aseptic precautions, I consider this a safe thing to do. The calibre of the needle should be as small as possible. At the same time, the pus is often thick, and it is necessary to employ a needle of fair size. Of course, if it was thought that there were a number of abscesses in the liver, we should not think of operating, but in view of the uncertainty which attends the diagnosis, I think it right to give the patient the benefit of the doubt. All of the cases of abscess of the liver that I have seen in this city have been pyæmic. In one case, the abscess sac was very large, and if drainage had been secured early, temporary benefit at least would have been obtained.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, October 17, 1887.

THE PRESIDENT, W. T. BELFIELD, M.D., IN THE CHAIR.

(*Concluded from page 790.*)

DR. A. H. BURR exhibited an

ACEPHALOUS CHILD AT TERM.

A lady was taken with labor pains a 7 o'clock this morning, at 9 I was called to see the case, and at 10 this specimen was delivered. There is an entire absence of cranial development, the features pretty well developed, but no neck is apparent, and the spine is bifid, commencing with the seventh vertebra; the divided prominences are plainly discernible on the bifurcativus from here to their attachment, apparently to the parietal bones. The occipital bone seems to be absent. Some of the interesting features in this case were the enormous amount of amniotic fluid. I have never seen so much—smallness of the placenta, smallness of the cord, and a little variation in the attachment of the cord to the placenta; its attachment was at the centre, but there seemed to be an adhesion of the cord to the amnion pretty near to the margin of the placenta, and along the course of this adhesion some of the placental veins passed into the cord. I delivered this lady nearly three years ago of a very healthy and well-developed boy, with exception that he has hypospadia. She had given birth prematurely to two others that were similarly deformed.

Stated Meeting, November 7, 1887.

THE PRESIDENT IN THE CHAIR.

DR. JAMES H. ETHERIDGE read a paper on

VAGINAL HYSTERECTOMY.

(See page 806.)

DR. C. T. PARKES: I am very much pleased with this paper, in that it introduces a method of controlling hæmorrhage that has been satisfactory to me a good many times. We are indebted to Péan, of Paris, for this method. He depends upon it on all occasions and in all operations. It is not an unusual thing to find a wound that he has made containing a dozen of these forceps. He never uses a drainage tube. After seeing it done by him, I have resorted to the use of the forceps as a means of hæmastasis in all operations where it was difficult to apply a ligature, and especially in removal of carcinoma of the rectum. Any one who has performed that operation knows how difficult it is to apply a ligature that can be trusted, high up in a wound so small as that made in the removal of a carcinoma of the rectum. And on several occasions I have left half a dozen forceps, removing them in twenty-four hours, without subsequent trouble. It saves a great deal of time, and is perfectly reliable. I do not think, it is necessary, on all occasions, to leave the forceps on forty-eight hours. I think that after squeezing with the large jawed forceps for twenty-four hours, there is scarcely any danger of hæmorrhage from a vessel the size of those that are included in it, and by diminishing the time of the retention of the forceps you reduce the danger of necrosis of the tissue contained in the forceps. Another point, I don't see the necessity of turning the uterus over, thus endangering the entrance of diseased tissue into the peritoneal cavity. The posterior wall is uncovered, the broad ligaments are exposed, and what is the use of turning the uterus over? These forceps will reach the top of it, and they will include the broad ligaments on either side, and they can be applied just as well with the uterus in position as if it was turned over. There is great necessity of keeping close to the uterus with the forceps. I think there is more danger with the use of the forceps, in including the ureter, than we are aware of, and if the operation is done where there is any probability of recovery, it does not do any harm to keep well up to the uterus. If the tissue is diseased beyond that point you might as well let the patient alone.

DR. D. T. NELSON: I wish to quote a word from Martin, of Berlin, spoken before the International Congress, where this subject was discussed quite fully. He advocates the operation strongly, and made this important point, which I think, was not too much emphasized by the reader of the paper, that the operation is not justifiable when the uterus is not movable. When the tissues above and about the uterus have become involved by the diseased condition, then the operation should not be done. Martin's later operations have been only upon this class of cases, and consequently the promise of success—permanent cure—has been far greater than it would otherwise be.

FOREIGN CORRESPONDENCE

LETTER FROM VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Sixth International Congress for Hygiene and Demography, in Vienna.

The third Section discussed in its first session, on Tuesday, September 27, the report presented by Dr. Hueppe, of Wiesbaden, viz.: "The Connection between the Supply with Drinking-water and the Origin and Spread of Infectious Diseases, and the consequences to be derived therefrom with reference to Hygiene." The Section was presided over by Prof. Virchow, of Berlin, and Prof. Gaffky, of the same city, held the place of a Vice-President. The reporter, Dr. Hueppe, directed the attention to the printed report he had presented, and remarked that though there were no positive proofs for the importance of the water-supply with reference to the epidemic spread of typhoid fever and cholera, our experience and the general considerations made it none the less probable that the drinking-water indeed played a part in the spread of those infectious dis-

eases, and that we had to take the necessary measures for opposing their damaging influences. Prof. Pöhl, of St. Petersburg, as well as Dr. Dunard, of Geneva, also pleaded in favor of the influence of the drinking-water on the spread of infectious diseases, and supported the adoption of the preventive measures which had been advocated by Dr. Hueppe.

Etiological and prophylactic experiences on the cholera epidemics in Europe during the last three or four years. This subject was discussed by the same Section under the Presidency of Prof. Finkelburg, of Bonn, and the reporters were the Professors Adrien Proust and Gilbert Ballet, of Paris; Dr. Hauser, of Madrid; Prof. Babes, of Buda-Pest; and Prof. Max Gruber, of Vienna. The Paris hygienists reported on the course of the cholera epidemics in France in 1884, 1885 and 1886; Dr. Hauser on his experiences with the cholera epidemics in Spain in 1884 and 1885; Prof. Babes on that of Hungary in 1886, as well as on the various conditions of the comma bacillus; and at length, Prof. Max Gruber on the cholera in Austria during the years 1885 and 1886. The latter concluded his statements with the following sentences: The "vibrio" of Koch is the specific agent of the "cholera indica," and its spread is caused by the human intercourse. No proof has been furnished for the infection with cholera by means of drinking-water, and its spread was quite distinctly dependent on the seasons and the weather. There were, indeed, several conditions which led us to suggest that there existed a temporal and local disposition for the spread of the epidemic, but a full explanation as to the etiology of the cholera had still to be proven by future investigators. The prophylactic measures which had been adopted in Austria were nevertheless quite justified, and if they were not attended with a full success, this was due to the difficulty or even the impossibility of their being thoroughly executed. A complete protection against the cholera was to be attained, but only by the improving of the sanitary organizations of the States, and by conveniently spreading the hygienic principles among the population.

Prof. Pettenkofer, of Munich, the well-known German hygienist, stated that we had, indeed, to consider the bacteria as the agents of the infection, but that all the appearances of the latter could not at all be explained by them. We had, before all, to answer the question as to what was the behavior of the cholera in its endemic home, in India. We had quite exact knowledge with reference to the course of this epidemic in India for the last twelve years. The mortality in the Lower Bengaly was in a proportion of 18 per 10,000, and in the western parts of the Pendschab in a proportion of 2 per 10,000; furthermore, we had to take into account that, although the Pendschab was traversed by several railways and there was much intercourse there, some districts of this territory had nevertheless remained immune against cholera heretofore. It therefore became evident, from these facts, that the conditions of locality were of a deciding influence on the spread of this epidemic; and the same was also true of the influence of time on the epidemic under consideration. In India, the cholera maximum for Lahore was during the month of August, and the minimum in April, whereas the inverse proportion was to be observed at Calcutta. For the twelve years, viz.: from 1848 to 1859, during which the cholera prevailed in Germany, the following statistical data with reference to mortality had been collected: In Prussia, 20; in the province of Posen, 0.5; in the district of Leipsic, 16; in the district of Dresden, 3; in Upper Bavaria, 26; in the Upper Palatinate, 0.3 out of 10,000 inhabitants. And nevertheless, continued Prof. Pettenkofer, the comma bacillus had invaded all these districts. It was also a characteristic and strange feature that with us the cholera completely disappeared for a shorter or longer interval of time, and had to be anew imported from India—which was not the case with other diseases which had, in some way, been imported from the East, such as syphilis, etc.; hence, the human organism alone did not yet present a soil capable of propagating the epidemic in question. Prof. Pettenkofer was also opposed to the contagiosity of cholera, as well as to the utility of disinfection of patients, and concluded his remarks by directing the attention to England, which, in spite of the Suez Canal and the enormous importations from India into that country, had nevertheless remained immune against cholera owing to its preventive system.

International Regulations for Epidemics. In a session of the third Section, under the Presidency of Prof. v. Hofmann, of Vienna, the creation of international regulations for epidemics was discussed. The reporters on this subject were Dr. Sonderegger, of St. Gallen, in Switzerland; Dr. Pallin, of Paris; and Dr. Murphy, of London. The following conclusions were presented by the reporters:

1. The appointment of a sanitary authority at every port, whose duty it should be to possess information as to the sanitary condition of the port, and of the health of the passengers and crews of vessels arriving at or leaving the port, this information to be placed at the disposal of the consuls of the countries to which the vessels are bound.

2. Every country to possess a central office to which should be sent reports of the number of cases of specified epidemic diseases occurring in every large town and port during each week, immediate notice being sent of cases of cholera; this information to be placed at the disposal of the Governments of other countries.

3. Precautions to be taken by the sanitary authorities and officers of vessels, as already indicated, to prevent the embarkation of persons or articles infected with cholera.

4. A station to be situated in the Suez Canal, for the purpose of obtaining information of the health of passengers and crews of vessels bound for Europe, but not for their detention for more than the time necessary for procuring this information.

5. This information to be placed at the disposal of representatives of the different Governments.

6. Every vessel arriving in a European port to be dealt with in accordance with the manner determined on by the Government of that country.

In the discussion which arose on the subject, Prof. Pettenkofer pointed out that so long as the etiology of the cholera was not known to us sufficiently, and the opinions as to the nature and the conditions of existence of the cholera bacterium varied with the different authors, the propositions to be made would have only a little influence on the Governments. All measures which intended restrictions on commerce and intercourse would be quite illusive, and the system of quarantine should be quite given up.

Dr. Stecaulis, of Constantinople, and Professor Corradi, of Bologna, also spoke against the utility of quarantines, and particularly against the close of the Suez Canal. The reporters on the subject and Prof. Finkelnburg, of Bonn, then read the resolutions referring to the regulations for epidemics, which they had composed together, and according to which the Congress should express the desire that an international convention should be created between the different States to the effect of protecting the nations against the invasion of cholera, the plague, the yellow fever, etc. The resolutions, which were, in general, identical to the conclusions alluded to before, were accepted by the Congress after having been thoroughly discussed.

The discussions of the second Section with reference to the measures to be taken against the adulteration of food ended with the acceptance of the following resolutions: 1. A committee, being composed of Professor Paul Brouardel and Gabriel Pouchet, of Paris, and A. Hilger, of Erlangen, was elected, which was to aim at: *a*, the introduction of a regular control of food; *b*, erection of institutions in which food should be examined after a uniform method; *c*, the fixation of uniform methods for the examination and the appreciation of food; *d*, creation of an international legislation respecting the subject under consideration.

In an extraordinary session of the third Section, under the Presidency of Prof. Albert, of Vienna, the methods of the preventive inoculations against anthrax and rabies were discussed. The representative of M. Pasteur at the Congress and the Director of his laboratory, M. Chamberland, first gave some statistical data concerning the rate of mortality of cattle and of sheep owing to anthrax before and after the performance of the preventive inoculations, and showed that the mortality owing to this disease had much abated in France after the introduction of M. Pasteur's preventive inoculations. He then delivered a detailed lecture on the results which had been obtained with the Pasteurian method of the anti-rabic inoculations. The success of this method became evident from the fact that among those who had been inoculated after this method, the mortality amounted to only 1½ per cent., whereas the mortality of the non-inoculated individuals who had been bitten by mad dogs was from 5 to 16 per cent. Dr. Chamberland further pointed out that the objections to the Pasteurian method which stated that those who had been inoculated after his method died owing to the very inoculations, was not at all exact. Such a statement was inconsistent with the fact that the animals which had been inoculated with parts of the spinal cord derived from persons who had died after the anti-rabic inoculations, succumbed after an interval of fourteen days; and as the duration of the inoculation period of the virus which had been conveyed by the bite of the dog (the so-called "street rabies") was of fourteen days, whereas that of the inoculated virus (*virus fixé*) was only of seven days, it became evident that those who had died after the inoculation succumbed owing to the bite of the dog, and not as a result of the anti-rabic inoculations. There was no doubt, continued Dr. Chamberland, that the rate of mortality owing to rabies had much decreased since the introduction of the Pasteurian method of the anti-rabic inoculations. The discussion which developed on the subject was very much in favor of the Pasteurian method. Dr. Ullmann, of Vienna, who had performed anti-rabic inoculation according to the method of Pasteur, at the clinic of Prof Albert, stated that the inoculations were attended with much success, and that those inoculated presented a mortality of 2½ per cent., whereas the rate of mortality in the non-inoculated subjects was much higher. Dr. Metschnikow, Director of the Bacteriological Station at Odessa, Russia, supported the statements of Drs. Chamberland and Ullmann, and said that the first results—he had already performed 703 inoculations—which had been obtained in his laboratory with the inoculations in question were unfavorable owing to the defective manipulations, the deteriorated virus, etc., but that they were now excellent and showed a mortality of only 2 per cent. Prof. v. Frisch, of Vienna, basing himself on the experiments which he had performed, remarked that we could not yet decide on the value of the Pasteurian method, but he acknowledged the great merits of Pasteur as to the success which he had obtained in rendering dogs immune against rabies, and proposed to make the preventive inoculations compulsory with reference to the animal species for thus diminishing the rate of mortality among them. The whole assemblage which assisted at these discussions, however, applauded the statements of M. Chamberland, who explained the unsatisfactory results of Prof. v. Frisch by defective or false manipulations, in his carrying out and imitating the Pasteurian method, and I may state that the preventive inoculations of M. Pasteur have had a great triumph at the International Health Congress.

DOMESTIC CORRESPONDENCE

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Foot and Mouth Diseases in Animals; Relation to Scarlatina—Opening of the New York Cancer Hospital—Laparo-Elytrotomy for Deformed Pelvis—The Death of Dr. T. R. Varick.

At the first December meeting of the Academy of Medicine Dr. J. W. Stickler, of Orange, New Jersey, presented an interesting and suggestive communication under the title, *Foot and Mouth Disease as it Affects Man and Animals, and its Relations to Human*

Scarlatina as a Prophylactic. It had long been known, he said, that foot and mouth disease may be communicated to the human subject, either through the agency of milk from animals suffering from the disease or by the accidental introduction of virus into open wounds. Among the characteristics which it presented in man were glandular enlargements, vesicles in the mouth, and upon the hands and feet, and, in cases, a scarlatinal eruption on different parts of the body. This was the case with Herting and others who purposely contracted the disease by drinking milk from infected cows.

He then gave some account of the sudden and severe epidemic of sore throat which occurred in Dover, England, in 1884, and attacked the inmates of the best houses in the place; and said that it was conclusively proved that the outbreak originated from milk obtained from cows suffering with foot and mouth disease. In the majority of the cases the two principal symptoms were inflammatory sore throat and enlarged cervical gland, while in many instances vesicles were also noted. The sequelæ in general resembled those of scarlet fever. An investigation of 182 of the cases, made two years after the outbreak, showed the following points:

1. None of the patients had since had scarlatina.
2. Members of families who had previously had scarlatina as a rule escaped the epidemic, while those who had not had scarlatina were generally attacked.
3. Sixteen of the patients had already had scarlatina.
4. Four of them were very mild cases.
5. Two of them had had scarlatina when they were very young.
6. In ten cases it was doubtful whether the patients had had scarlatina or not.

After directing attention to the significance of these facts Dr. Stickler related the histories of three cases in which he inoculated children with virus from milch cows and subsequently exposed them to the contagion of scarlet fever. The first was a boy 8 years of age, who after he had entirely recovered from the effects of the inoculation, was taken to the bedside of a scarlet-fever patient and made to inhale the breath of the latter and place his head upon the pillow and by him. Yet, notwithstanding this experience, the boy did not develop scarlet fever. The second was a child 4 years of age, in whom the inoculation produced much greater constitutional disturbance than in the preceding case. The throat and mouth became sore, the temperature rose to 103°, and there was a scarlatina eruption followed by desquamation. This child was afterwards directly exposed to the infection of scarlet fever in the same way, and did not contract the disease. The third child inoculated was a boy ten years old, and although during the three years that had elapsed since he had been inoculated he had more than once been exposed to the risk of scarlet fever, he had thus far escaped having it.

While foot and mouth disease, Dr. Stickler said, was essentially the same in man as in animals, there were some points of difference, and he now proceeded to describe in detail the symptoms met with in the latter. There were four marked stages its clinical history in animals, viz.: fever, eruption, desiccation and desquamation. In milch cows the flow of milk became nearly suppressed, while the milk secreted was of a yellow color and readily coagulated on boiling or even when exposed to a moderate degree of heat. There were vesicles in the mouth and throat, and unhealthy ulcers and erosions were sometimes left after them. Thomas had stated that scarlet fever was the only disease in which the mucous membrane could be torn away in considerable pieces, but he was probably not aware that this was also the case in foot and mouth disease. Repeated attacks of the affection in the same animal were supposed to be rare; but authorities differed very greatly in regard to this point.

Klein, he went on to say, had discovered what he believed to be the germ of foot and mouth disease, and stated that it could not be distinguished from the germ met with in the disease, caused by milk, at Henden, and was unquestionably scarlatina. In order to test the transmissibility of scarlatina from man to the lower animals, Dr. Stickler inoculated two colts by injecting virus into the jugular vein, and also giving them mucus from the throats and mouths of scarlet-fever patients to swallow. In one colt the temperature went up to 103°, and in both there was sore throat, redness of the mucous membrane, cough and difficulty of deglutition. In one of the cases there also resulted desquamation. Having repeated these experiments in a large number of other animals, he was convinced that it was possible to inoculate the lower animals with scarlatina.

In inoculating human beings with virus from animals thus treated the lesion was found to be a mild one, and he believed that this virus could be used in such a way as to prevent scarlet fever subsequently. Five years ago he had inoculated twelve cases in this way with good results. Out of thirteen other children inoculated, who were already exposed to the infection of scarlet fever at the time, five escaped the disease entirely, while eight were attacked with it. None of these cases were severe, however, and the question arose whether the severity of the attack had not been mitigated by the inoculation. In conclusion, he stated that he hoped to pursue still further the investigations in which he was engaged.

In the discussion which followed the paper Professor Law, of Cornell University, said that as regards the prophylactic power of foot and mouth disease against scarlet fever in the human subject, he was still skeptical. In Great Britain there are frequent outbreaks of the disease, which affected not only the cattle but the people coming in contact with them; and he thought that if foot and mouth disease was a protection against scarlatina, the latter ought to be a much less common affection there than in this country, where epizootic apththa, or foot and mouth dissease, was almost unknown. Such, however, was not the case, as the statistics showed that during the last five years there had been no less than 90,000 deaths from scarlatina in Great Britain. Then, again, an attack of foot and mouth disease conferred a very limited, if any, immunity from subsequent attacks,

and he had known it to recur within six months in the same animal. Recurrence of the disease was very common in his experience, and he would, therefore, hardly suppose that inoculation with it would confer immunity from scarlatina for any length of time, if at all. Still, it did certainly follow that the immunity conferred by foot and mouth disease might not be more extended in a race less susceptible to its influence than the bovine.

As regards foot and mouth disease, Professor Law said he would strongly urge that the investigation should be carried on on the other side of the Atlantic, as he thought it would be a very serious matter if that affection should be introduced by this means among American cattle, and he had no doubt that there would be a general outcry smong the cattle men if it were known that experiments were being made with the virus of the disease in this country. Then, as regards scarlatina, he said he feared that if the virus of this disease were employed for making inoculations it would only disseminate scarlatina more widely. While he had great respect for the ability and achievements of Pasteur, he could not but believe that he had increased the spread of anthrax by scattering broadcast anthrax virus; for he was convinced that a weakened virus might under certain conditions be rendered potent and dangerous. In the same way, he believed that rabies would only be increased by the dissemination of his attenuated virus of that disease, and he understood it to be a fact there had been more rabies among the dogs in England since the discovery of Pasteur than ever before. These considerations, in his opinion, condemned the methods proposed by Dr. Stickler for the prophylaxis of scarlet fever.

Among the other speakers was Dr. J. Louis Smith, who said that since the time of Jenner the hope had been awakened that some of the other fatal infectious diseases, and especially scarlet fever, might be prevented, as small pox had been, by the substitution of a milder and modified disease derived from the lower animals. As regards scarlet fever, two propositions of great interest and importance had arisen: *First.* Is there a disease in the bovine race which is a true scarlet fever, or which communicates genuine scarlet fever to man? and, *Second.* If there is such a disease does it produce a mild and modified form of scarlet fever in man? Many instances had been recorded in the last five or six years in which epidemics of scarlet fever had arisen from the use of milk furnished by healthy cows and infected with the scarlatinous germ after the milking, but in the St. Marylebone and Henden epidemics, occurring two years ago, the outbreak of scarlet fever appeared to be clearly traced to diseased cows. The point to which he wished to call attention was this: The sickness of the cows was mild, not appreciably impairing their appetite, or diminishing their milk, but the disease which the use of the imported milk produced was described as an intense outbreak of scarlet fever. Instead of a mild disease being propagated from the cow for which we are looking, the reverse had occurred. A mild form of the disease in the cow produced a severe one in man; so that it appeared from the history of this epidemic that by inoculating with the bovine scarlatinous virus we might produce severe and fatal epidemics, instead of a mild and modified form of the disease.

Dr. McLean, one of the veterinaries present, contended that while the epidemics alluded to had undoubtedly originated from milk, it had by no means been proven that the disease came from the cows themselves, and expressed the opinion that there was no such thing as bovine scarlatina except possibly in cases where scarlatina was produced in the cow by direct inoculation with scarlatinal virus from the human subject.

In closing the discussion Dr. Stickler said that if he produced only a slight and harmless attack of scarlatina by his inoculations he could see no objection to the use of scarlatina virus for this purpose, and when the terrible aspects of the unmodified disease are taken into consideration the extreme importance of securing some such means of protection was evident. As to the disease from which the Henden cows suffered, it had, he thought, been clearly demonstrated that it was nothing else than scarlatina, since it was precisely the same affection as was ordinarily produced in cows by the inoculation of scarlatinal virus from the human subject.

The beautiful new building of the New York Cancer Hospital, on Eighth Ave. and 105th street, opposite Central Park, which is largely the gift of Mr. and Mrs. John Jacob Astor and the late Mrs. General Cullom, was formally opened with appropriate ceremonies on the 6th of December. On this occasion the principal address was made by Dr. Fordyce Barker, and addresses were also made by Dr. Wm. H. Draper, the Rev. Dr. John Hall and John E. Parsons, Esq., President of the Board of Trustees. The present structure, which is admirably adapted in every way for the purpose designed, is for female patients alone, of which it will accommodate about eighty, and will constitute only a single pavilion of the institution when the entire hospital, as it is now contemplated, is completed. As was stated in this correspondence when it was first announced that the building was to be erected, it is unfortunate that the efforts of those having the matter in charge should not have been exerted in behalf of the New York Skin and Cancer Hospital, an institution of prior origin and one which embraces the same objects in its scope; since by this division of interests there is naturally a considerable waste of energy and resources which ought properly to have been concentrated upon a single charity of the kind.

At a recent meeting of the Clinical Society Dr. McKim reported a successful case of laparo-elytrotomy for deformed pelvis. The child was born dead, but the mother, after a pretty hard struggle, in which oxygen gas was used with good effect in supporting the flagging powers of nature, recovered. In this connection it may be noted that Dr. Wm. T. Lusk is winning splendid laurels for himself by his Cæsarean section by the modified Sänger method; having had three successful cases within a year, two of which have occurred during the past autumn. In the first two cases both mother and child were saved,

but in the third, which is quite recent, the child unfortunately died of tetanus.

In the death of Dr. Theodore R. Varick, the eminent surgeon, of Jersey City, the New York State and County Medical Associations have lost a most devoted friend and highly valued contributor to their scientific work. In 1885 he read an able paper on the use of hot water in the treatment of wounds, in which remarkable results with this method were reported, before the County Association, of which he was afterwards made a non-resident member; and at the meeting of the State Association in 1886 he took a conspicuous part inthe discussion on the treatment of gunshot wounds of the intestines which constituted the most noticeable feature of the session.

P. B. P.

NECROLOGY.

MARTIN ROOT, JR.

Martin Root, Jr., M.D., of Byfield, Mass., the fourth son and tenth child of Martin and Lucinda (Clary) Root, was born July 8, 1802, at Montague, Mass., which was his home through boyhood and early manhood. He died at his residence in Byfield, October 28, 1880.

His rapid growth out of boyhood—some six inches in seven months—caused an unhealthy development of height of which he was so ashamed that he used to sit at his studies bending over as much as possible, endeavoring to hide his height, until hæmorrhage of the lungs compelled him to desist. His physician advised a sensible hygienic treatment of open air exercise, and he also wore the old fashioned steel busk to help maintain an erect position.

His literary education was the common school of his home, followed, when about 22, by one term at Amherst Academy. Then he taught a district school for one winter in Granby, Mass., after which he commenced the reading of medicine with Dr. Sellon, a popular and successful botanic physician of Amherst. His lecture courses were at the Vermont Academy of Medicine, connected with Middlebury College, Vt., but located at Castleton, Vt., during the fall terms of 1824 and 1825, with a private supplementary course in Anatomy at Albany, N. Y., under the tuition of Dr. Alden March, in the winters of each of these years, and graduating as an M.D., at Middlebury, in the summer of 1826.

In the autumn of 1826 he attended a post-graduate course at the Berkshire Medical Institution, located at Pittsfield, Mass., and connected with Williams College.

The names of William Tully, Amos Eaton, Chester Dewey and John De la Matter appear among his instructors during these courses.

His life seemed destined to be a short one, but the preventive training of Dr. Sellon apparently held at bay the further progress of the disease, and enabled him to return home at the close of his medical studies in readiness for the opening of his life work.

One day he heard allusion made to a place called Byfield, whose physician, Dr. Parker Cleveland, had died about a year before, after an active medical service of fifty years, and in March, 1828, he set out upon an exploring tour. He found it difficult to learn anything about the place, though one landlord told him that he had heard of a Byfield breed of hogs of considerable local celebrity. But at last Dr. Root reached the place. The prospect seemed satisfactory in its outlook, especially as Dummer Academy was located there, and a cotton factory, the first in New England, was at work at Parker River Falls, and he took up his abode and his work for life.

On March 2, 1829, he married Jerusha Barbour, daughter of James and Dorcas (Doane) Barbour, of Bridport, Vt., who was at that time living with her brother, Rev. Isaac R. Barbour, the minister of Byfield Parish. A family of seven children filled the home, of whom five are now living. The youngest child, Richmond Barbour, is a physician in Georgetown, Mass., and a member of the Massachusetts Medical Society.

After some ten years of practice his health began to fail, compelling him to take a vacation of six weeks, which was spent in a carriage journey to the Lake Champlain Valley of Vermont. This little rest seemed to renew his vigor, and he never again left his work for any length of time.

He became a member of the Massachusetts Medical Society in 1834, and at the second annual meeting of the Essex North District Medical Society he was one of the three selected for return to the Recording Secretary of the Massachusetts Medical Society as Councillors. In July, 1843, he was chosen Secretary *pro tem* of this District Society, and his name then first appears officially affixed to the record of this meeting. At the next annual meeting he was chosen Permanent Secretary. From the official recognition of his death by this Society we quote the following allusion to his work as Secretary:

"From this time on his name is signed to the records of every meeting, with a single exception, up to January 29, 1874, a period of over thirty years, and only once during all this time was he absent.

"At the twelfth annual meeting the office of Treasurer was joined to that of Secretary, and from that time he was in charge of the finances of the Society. At the annual meeting of May 6, 1874, he declined a reëlection on account of the failure of his eyesight, connected with the other infirmities of age. Dr. Garland, of Lawrence, offered the following resolution, which was unanimously adopted:

"'*Resolved*, That Dr. Martin Root, by his untiring industry and faithfulness as Secretary and Treasurer of this Society for a period of thirty-one years, has secured our entire confidence and highest esteem; and as a slight testimonial of this feeling we authorize the Treasurer to pay over to him the sum of fifty dollars for his sole use.'

"A small tribute, surely, for such long and faithful service, but bestowed with the most cordial goodwill. From this time he was seldom present at our meetings."

For fifty-two years he engaged in the active duties of his profession, until about four years before his

death, when a gradually failing eyesight ended in a year or two in almost complete blindness, until he passed out of this darkness into the light. He became a member of the American Medical Association in 1855. He attended in 1860, 1864 and 1865.

There is little in a life spent in the sequestered, unheralded Parish of Byfield which can interest the public at large, even though that life was measured by a half century of most honorable professional work. Cautious in his treatment of disease, he had few errors to try to make right. Conservative in his thinking, he yet led two Harvard medical students to say that the "old doctor" taught them a lesson of progress even in old age. And more than all else in his character, the moving power of every thought, word and act was that of supreme loyalty to the Christ who to him was all in all.

His life is embalmed in the memory of the families for whom he was the "beloved physician" for fifty years—whose children entered life with his attendance; whose sick were restored to health by his untiringly faithful care; and whose dead ones his skill could not save. M. N. R.

ALMON S. BONSTEEL, M.D.

Dr. Bonsteel, a prominent physician of Corry, Pa., died of diphtheria on October 22, æt. 49 years. He was born in Ellicottville, N. Y., July 17, 1838. He was graduated from Bellevue Hospital Medical College. He settled in Corry in the spring of 1872, and was engaged in active practice until he fell a sacrifice to the duties of his profession. He was a member of the County and State Medical Societies, and of the American Medical Association. He was an accomplished, energetic, and unassuming physician, and an upright citizen.

BOOK REVIEWS.

A System of Gynecology. By American Authors. Edited by Matthew D. Mann, A.M., M.D., Professor of Obstetrics and Gynecology in the Medical Department of the University of Buffalo, N. Y. Volume I. Illustrated with 3 colored plates and 201 engravings on wood. 8vo, pp. xii–789. Philadelphia: Lea Brothers & Co. 1887.

PRELIMINARY NOTICE.

Notwithstanding the number of works on gynecology, and the recent rich development of gynecological literature the profession in this country has now eagerly looked forward to the appearance of this, the first volume of the System of Gynecology by American Authors, which was announced as forthcoming several years ago. The place, the need, for such a work need not be discussed, being apparent. "Gynecology has now grown to an extent which requires for its thorough treatment this coöperation of representative men; and it is eminently fitting that the science which is in so great a degree of American origin should be thus presented by American practitioners."

The opening chapter of this volume is a "Historical Sketch of American Gynecology," by Dr. Edward W. Jenks, of Detroit. The remaining fourteen chapters, with the names of the writers are as follows: The Development of the Female Genitals, by Henry J. Garrigues; Anatomy of the Female Pelvic Organs, by Henry C. Coe; Malformations of the Female Genitals, by Henry J. Garrigues; Gynecological Diagnosis, by Egbert H. Grandin; General Consideration of Gynecological Surgery, by E. C. Dudley; General Therapeutics, by Alexander J. C. Skene; Electricity in Gynecology, by Alphonso D. Rockwell; Menstruation, and its Disorders, by W. Gill Wylie; Sterility, by A. Reeves Jackson; Diseases of the Vulva, by Matthew D. Mann; Inflammatory Affections of the Uterus, by C. D. Palmer; Subinvolution of the Vagina and Uterus, by Thaddeus A. Reamy; Periuterine Inflammation, by Richard B. Maury; and Pelvic Hæmatocele and Hæmatomata, by Ely Van de Warker.

The volume is well indexed. As usual, the publishers have done their part of the work in a way to which no exception can be taken.

ASSOCIATION ITEMS.

MALARIA AND THE CAUSATION OF FEVERS.

To the members of the Committee on State Medicine, and to others interested in Public Health subjects.

Gentlemen:—As Chairman of the Committee on State Medicine, of the American Medical Association, and as one greatly interested in sanitary progress, permit me to offer a few suggestions designed to systematize the work of our Section at the next meeting of the Association, in Cincinnati, Ohio, the second Tuesday in May, 1888.

It would seem that a stronger impulse can be given if, instead of scattering over the entire field of the medical sciences, many of us concentrate our efforts upon the same subject.

As the first requisite for the prevention of sickness or of deaths is a knowledge of the *causes* of the sickness or of the deaths, and as the causation of disease may be most appropriately studied in an association of physicians, I recommend that an effort be made to contribute for the advancement of our profession, for the use of non-medical sanitarians, and for the benefit of humanity in general, so much as is practicable of well systematized facts, and considerations bearing upon the "Causation of Disease."

To still further concentrate our energies, I recommend that the special topics for this meeting be "*Malaria, and the Causation of Fevers.*" One reason for this is that, even in the Northern State in which I live, intermittent fever (though causing few deaths), is reported as causing more sickness than does any other disease whatever.

It would be of interest to know, for each State:

1. The proportion of all sickness, that, by reputable practicing physicians, is attributed to malaria.

2. Just what groups of signs and symptoms are accepted as evidence of the influence of malaria

3. To what extent sickness attributed to malaria is increasing or decreasing.

4. What are the meteorological and other conditions coincident with the increase or decrease of malarial diseases?

5. What facts are there bearing upon the question? What is malaria?

6. What evidence is there for, or against a malarial germ?

Probably it will conduce to the advancement of our knowledge, if the member of this Committee in each State will collect facts, and, at the coming meeting report, or have some one report for his State, on the topics I have suggested, and upon any other subject which he may think important.

Members of the Association that are pathologists, physiologists, bacteriologists, or chemists, will, I think, be especially welcomed if each, from his own standpoint, will discuss that part of the subject relative to the "Causation of Fevers." Statisticians may well give us the evidence that they are able to bring bearing on the topics suggested; and the busy practitioners that have the best opportunities for observing these diseases, will be expected to contribute their share.

In case you prepare a paper, report, or for a discussion, I trust you will remember to conform to the rules of the Association, and be sure to inform the Secretary of the Section, S. T. ARMSTRONG, M.D., Marine Hospital Service, New York City, concerning the title, and the time required, in order that the programme may provide for its presentation.

It will give me pleasure to hear from you on the subject. Very respectfully,

HENRY B. BAKER,

Ch'n Section on State Medicine, Am. Med. Ass'n.

Lansing, Michigan, December, 1887.

MISCELLANEOUS.

SMALL SOCIAL VICES.—A correspondent very sensibly directs attention to the influence exercised by some of the niceties of modern life upon the physical condition of young women at the present day. Without adverting to such grave excesses as the free use of alcohol and of toxic remedies, he instances incessant tea-drinking, sipping eau-de-cologne, and addiction to sensational novel-reading as examples of the prevailing spirit of self-indulgence. There is considerable force in his observation that we may be disappointed in the result if girls, who have in these and similar matters been allowed to regard their wish as their ideal, should at any time have to resume the responsibilities of motherhood. The practices to which he refers are, happily, counteracted in many cases by a native strength of mind and body, or by other habits of a more wholesome character. Still, it must be allowed that they are not in themselves conducive, but rather injurious, to health. They are part of a general tendency to luxurious living, which is not peculiar to one people, century, or sex, and to which we, as a prosperous commercial nation, have too readily become subject. The means of correction are not to be found in Pharmacopœias or in regulations as to the safest methods of indulging the petty cravings of selfish desire. The real remedy will be found in a return to simpler or less artificial usages, and in the increasing recognition of the value of some guiding purpose, even in the leisure and the diversions of our lives. A general understanding of sanitary principles would also assuredly do much to assist the formation of a just estimate by the general public, of what is, and what is not, calculated to favor the healthy growth of mind and body. These principles are now happily becoming better and more widely appreciated than formerly. The evils associated with such vices of civilization as the social customs we have referred to stand, therefore, a fair chance of great limitation, if not of extirpation, when the verdict of common sense thus instructed will have been pronounced upon them.—*Lancet*, Nov. 26, 1887.

A JUST JUDGE ON PATENT MEDICINES.—Mr. Justice Kay, in the Chancery Division, in the case of C. A. Vogeler & Co. *v.* Middleton, was asked to restrain the defendants from advertising and selling an oil as St. Joseph's Oil, as being an infringement of the plaintiff's trade mark, and calculated to deceive the public. Mr. Justice Kay said that both plaintiffs and defendants were venders of quack medicines, which were largely advertised to heal all manner of external injuries. He declined to rule that the use of any saint's name in the calendar was an infringement of the plaintiff's trade mark. But lest either party should use his judgment as an advertisement, he hoped they would add that no one should employ either preparation except under medical advice. The judge's counsel is excellent. It is too much to expect that the parties to the suit will publish it. But we gladly give it publicity and praise.—*Lancet*, Nov. 19, 1887.

SALOL IN TYPHOID FEVER.—Salol, in gr. iij doses, every 3 hours, in typhoid fever, is highly recommended.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 10, 1887, TO DECEMBER 16, 1887.

Major G. M. Sternberg, Surgeon, assigned to duty as attending surgeon and examiner of recruits at Baltimore, Md.

Major P. J. A. Cleary, Surgeon, assigned to duty at Ft. Wingate, N. M.

First Lieut. C. L. G. Anderson, Asst. Surgeon, assigned to duty at Ft. McDowell, Ariz.

Capt. A. W. Taylor, Asst. Surgeon, assigned to duty at Ft. Robinson, Neb.

Capt. A. H. Appel, Asst. Surgeon, assigned to duty at Camp at Highwood, Ill., relieving Asst. Surgeon H. O. Perley.

Capt. H. O. Perley, Asst. Surgeon, will rejoin his proper station (Ft. Wayne, Mich.). S.O. 285, A. G. O., December 8, 1887.

First Lieut. W. B. Banister, Asst. Surgeon, ordered to proceed at once from Ft. Lowell, Ariz., to Ft. Wingate, N. M., and report to the commanding officer for duty. S. O. 128, Dept. Ariz., December 1, 1887.

First Lieut. J. M. Cabell, Asst. Surgeon, ordered for duty at Ft. Niobrara, Neb. S. O. 286, A. G. O., December 9, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING DECEMBER 17, 1887.

Medical Inspector A. Hudson, ordered to the "Trenton."

Medical Inspector N. L. Bates, detached from the "Trenton," and placed on waiting orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE WEEK ENDING DECEMBER 19, 1887.

Surgeon R. D. Murray, granted leave of absence for fourteen days. December 8, 1887.

Surgeon J. M. Gassaway, granted leave of absence for fifteen days, to take effect when relieved. December 17, 1887.

Surgeon Fairfax Irwin, relieved from duty as Acting Chief Clerk, Office Supervising Surgeon-General, and to await orders.

P. A. Surgeon S. D. Brooks, granted leave of absence for thirty days, to take effect when relieved. December 15, 1887.

Asst. Surgeon W. P. McIntosh, to proceed to Wilmington, N. C., for temporary duty. December 13, 1887.

Asst. Surgeon G. M. Magruder, granted leave of absence for twenty-one days. December 19, 1887.

Asst. Surgeon P. M. Carrington, ordered to examination for promotion. December 14, 1887.